







WORLD TRADE NEWS

Brazil signs currency pact with Yugoslavia

RIO DE JANEIRO, Oct. 2. TRADE BETWEEN Brazil and Yugoslavia will in future be carried out in hard currency AP-DJ report. The start of a new trade treaty between the two countries precedes the visit here this week of a Yugoslav trade mission headed by Mr. Ilija Vukle, president of the Yugoslav Chamber of Economy which is responsible for foreign trade. Prior to the new treaty, trade was carried out under a credit clearing basis. Trade between the two countries last year totalled the equivalent of \$220m, with a surplus of \$159m for Brazil. One of the main problems the trade mission will discuss will be a reduction of the Yugoslav deficit in trade with Brazil. Yugoslavia buys coffee, soya beans, iron ore, vegetable oils and some manufactured products from Brazil while selling mainly chemical products and some light equipment. Giovanni Agnelli, president of the Italian Fiat concern and vice president of the federation of Italian industrialists, is expected to visit Budapest on October 4 for talks with Hungarian officials and industrial managers. The economic paper Vlaszarszag said a number of Hungarian enterprises maintained close contacts with companies of the Fiat concern.

Japan's top department store to stage £1.1m British fair

BY CHARLES SMITH

TOKYO, Oct. 2.

MITSUKOSHI, Japan's oldest and biggest department store chain has bought £1.1m worth of goods ranging from tissue paper to Constable and Turner masterpieces for sale at a special British Fair and Exhibition to be held from October 7 onwards. The fair, which marks the 10th anniversary of the first of Mitsukoshi's British displays is linked to an exhibition of treasures from seven stately homes including Woburn Abbey, Castle Howard and Longleat House. Mitsukoshi is flying over the owners or other people associated with the stately homes for visits to Tokyo during the fair. Mitsukoshi makes a practice of mounting ambitious cultural exhibitions from Europe and elsewhere in conjunction with sales of goods from the same countries. It has placed more stress on British goods than on any other imported products over the past ten years with the result that 26 per cent of its total turnover in imported goods is now accounted for by the U.K. Sales of British goods this year at Mitsukoshi stores throughout Japan are expected to reach ¥13bn. (over £26m) in 1977. About one-third of this amount is now imported direct by Mitsukoshi itself under exclusive contracts with the U.K. makers, the remainder is bought

on a non-exclusive basis (the same products may appear in other department stores) from Japanese wholesalers. Mitsukoshi has exclusive sales contracts for Japan with (among others) Norman Hartnell, Mappin and Webb and Hankley Bonister (Scottish whisky). Direct imports, say Mitsukoshi staff, result in a saving of over 20 per cent on distribution costs. The most highly priced items in the October British Fair will be a Ven30m. (over £60,000) silver and jewellery centre-piece from Mappin and Webb, followed by Turner and Constable paintings priced at around Yen10m. each. In addition to 19th-century British paintings Mitsukoshi bought over 200 paintings at the last Royal Academy summer show which will be sold at prices ranging from Yen300,000 to 500,000. Mitsukoshi expects about 75,000 people to visit its stately homes exhibit (entitled "the magnificent seven") during the 15 days the show will run in its main Tokyo store. About twice that number will probably shop in the adjoining special display of British products. After the show closes in the main Tokyo store it will move on to Mitsukoshi stores in other big Japanese cities, finally winding up in Nagoya on November 18. Mitsukoshi has staged a British fair and exhibition every two years since 1967 when it held

its "Lord Nelson" and "Queen Victoria" shows (the second of which was transferred in part to the Imperial Palace so as to be viewed by His Majesty the Emperor. The store says it is performing a cultural service by introducing the Japanese people to products which can help them to increase their enjoyment of life. Selling high quality imported European goods in Japan also happens to be extremely profitable, usually more so than selling competitively priced Japanese goods. Japan's revised August visible trade surplus fell to \$1.4bn. from a record \$2.05bn. in July, but rose from \$577m. in August last year, the Finance Ministry reports. August job exports rose 21 per cent from a year before to \$6.42bn., while job imports rose 12 per cent to \$5.29bn. The year-on-year rates of increase compared with 12 per cent and 5 per cent for exports and imports respectively in July. Norway has said it will finance an offshore oil training centre in Vietnam under terms of an agreement signed in Hanoi. The Norwegian Foreign Aid Programme will finance the project costing the equivalent of \$8m. The project involves building a training school near Saigon in the next two years. Six Norwegian companies involved in offshore activities will take part in the project.

India to import 1m wristwatches

By K. K. Sharma

NEW DELHI, Oct. 2. INDIA WILL import 1m. wristwatches immediately and the import is to be channelled through the State-owned Hindustan Machine Tools. The Government has already released rupees 77.5m. in foreign exchange for the purpose. Mr. Satish Aggarwal, Minister of State for Finance, announced. He said indigenous production of watches is to be stepped up, but if this does not meet the acute shortage, the Government might allow imports of another 1m. watches. The step is being taken to curb smuggling of watches into the country, which takes place on a large scale, and in view of the favourable foreign exchange reserves position. He added that imports of nylon, polyester filament yarn and polyester fibre have been liberalised and further liberalisation might be ordered soon. The other items for which imports might be allowed are stainless steel sheets and some drugs. The Government would also allow imports of capital goods for which details are being discussed at the moment. India and the German Democratic Republic have agreed that experts of the two countries should come together and identify new areas of production co-operation, especially for exports to third countries.

Bank upgrades future Saudi and Gulf surpluses

BY OUR FOREIGN STAFF

THE COMBINED current account surplus of Saudi Arabia, Kuwait, the United Arab Emirates and Qatar is likely to persist at levels of between \$29bn. and \$31bn. between now and 1981, according to a new study from the First National Bank of Chicago and reported in this week's *Petromoney*. This analysis of the payments of the four Arabian peninsula countries casts doubts on previous estimates by other U.S. banks of dwindling future surpluses among the Arab oil countries. A First Chicago assistant manager, Dr. Odeh Aburdene, who prepared the study, says the four states' surplus will remain significant because of the sizeable investment income generated by their foreign assets and the relatively low absorptive capacity of their economies. He estimates their foreign assets at about \$73bn. at the end of 1976. But this figure should rise to an estimated \$229bn. by 1981. Of the figure of \$73bn. itself, Saudi Arabia alone accounts for \$50bn. Kuwait's foreign holdings are calculated at around \$20bn., and the combined foreign assets of the UAE and Qatar at \$3bn. These estimates, Mr. Aburdene says, are substantially higher than many which have been published as they include not only "reserves" as defined by the International Monetary Fund but total foreign assets. This latter category include such

items as bilateral loans, equities, current account—will rise from \$6.7bn. in 1977 to \$15.7bn. at the end of 1981, as foreign assets climb to \$220.2bn. by 1981, he calculates. The First Chicago study inflows forecasted by Morgan Guaranty Trust Company earlier this year which predicted a current account surplus of up to \$10bn. for each of the four countries was accounted for by the fourfold increase in the price of oil and higher oil production. Mr. Aburdene sees the collection of the current account surplus of the four states' reaching a peak of \$31.4bn. in 1980 compared with \$28.7bn. this year. It should then decline slightly to \$28.7bn. in 1981. His analysis is based on a series of assumptions, including a rise in oil prices of about 7 per cent annually (roughly in line with world inflation) a rise in oil production of 5 per cent annually, and an increase in the volume of the states' imports of at least 15 per cent annually. The four should also disburse grants to other Arab and Islamic countries at a level equal to 10 per cent of their oil revenues. The banker calculates the rate of return on their foreign assets at some 7.6 per cent annually. On the basis of these assumptions the current account surplus of these countries "will remain substantial, in large part because the rapidly increasing income from foreign assets will arrest the decline on the current account." Their investment income receipts—a major part of the

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Alan H. Ulrich—Vice President, Manager, Foreign Exchange Trading, London

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Alcoa Australia to supply Dubai aluminium smelter

BY RICHARD JOHNS

ALCOA OF Australia will supply 200,000 tons of alumina annually over a ten-year period to Dubai's smelter under an agreement signed in London on Saturday. This volume will satisfy about three-quarters of the requirements of the \$600m. Dubai plant which is now under construction and is scheduled to come on stream in 1979 with an annual capacity of 135,000 tons. The contract was signed on behalf of Dubai by Sheikh Hamdan bin Rashid al Maktoum on behalf of the ruler of Dubai, which owns 80 per cent of the project, and Mr. W. Porter, chairman of Alcoa (Australia). No precise value has been placed on the contract nor any indication given of the price of the alumina concerned. However, provisions for escalation will not allow it to rise above a certain percentage of the dual metal price, according to Mr. H. P. Brauner, chairman of British Smelter Construction, the main contractor for the project. Under consideration is a fourth pot line which would increase capacity to 150,000 tons, said Mr. Brauner, who has been chiefly responsible for tying up the Dubai smelter package. Discussions are currently taking place with an unnamed U.S. firm concerned in purchasing the additional output proposed. Production from capacity presently under construction is committed to the Southwire Corporation of the U.S., Nishio-Iwai of Japan and Alcan of the U.K. The enterprise has still to

secure another 70,000 tons of alumina to fulfil the capacity presently under implementation (two tons are required for a ton of metal). It is hoped to conclude another sub-contract with Brazilian interests to the near future. For Alcoa (Australia) the deal concluded yesterday will mean an investment of \$250m. and employment for another 500 people. "This is something Australia needs and wants," said Porter after the signing of the contract. He added that it is going to be a win in every respect. Paying a tribute to the "fight and courage" of Sheikh Rashid, Ruler of Dubai, Brauner predicts that Dubai will profit from rising prices as a result of the world-wide shortage of aluminium capacity. Original calculations about the feasibility of the Dubai project were originally made on the assumption of a price of 60 cents per pound by 1979 compared with one of 53 cents at present. He now foresees it rising to 65 cents by 1980. The Dubai smelter is to be fired by dry gas offtake from a nearby LFG plant which will be supplied from a state's offshore gas field. In the way it should benefit from relatively cheap energy. The aluminium smelter being financed largely by the Corporation of the U.S., Nishio-Iwai of Japan and Alcan of the U.K. The enterprise has still to

World Economic Indicators

Table with columns: Country, Industrial Production (Aug 77, July 77, June 77, May 77, April 77), % change on year. Rows include Japan, U.S., Italy, Holland, U.K., West Germany, Belgium, France.

Specialists

OVERSEAS NEWS

Joint U.S.-Soviet stand dismays Jewish lobby

BY DAVID BELL

WASHINGTON, Oct. 2.

THE LONG-PREDICTED confrontation between the Carter Administration and Israel...

Reports of 100 killed in Dacca coup attempt

DACCA, Oct. 2.

MORE THAN 100 people were reported killed in an abortive coup attempt by dissident Bangladesh troops...

U.K. motives in Africa are suspect says Owen

BY MARTIN DICKSON

DR. DAVID OWEN, in a major reassessment of Britain's policy towards Southern Africa, said last night that the Labour Government must make it unequivocally clear...

Strike halts container activity in U.S. ports

By Stewart Fleming CONTAINER ship operation along the Atlantic and Gulf coasts of the U.S. came to a halt yesterday as Mr. Thomas Gleason, president of the International Longshoremen's Association...

Gromyko hints at Summit

BY DAVID SATTER

MOSCOW, Oct. 2.

THE ATMOSPHERE surrounding the Strategic Arms Limitation Talks improved perceptibly with the statement over the weekend by the Soviet Foreign Minister, Mr. Andrei Gromyko...

West insist that East admit guilt in Belgrade

BY REGINALD DALE, EUROPEAN EDITOR

BELGRADE, Oct. 2.

DELEGATES from 35 nations were gathered here today for the meeting to review the 1975 Helsinki Agreement on security and co-operation in Europe...

AUSTRIA AFTER THE ELECTION

The good life is over

BY PAUL LENDYAI IN VIENNA

DESPITE the relative success scored by the ruling Socialist Party at today's important regional elections in Burgenland, last week's flurry of speculation against the schilling indicates that Austria is faced with serious financial and economic problems...

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THE RULING Austrian Socialists look set for a surprising electoral victory at the provincial elections in Burgenland, Austria's easternmost province.

taxation and a series of austerity measures prepared by Chancellor Bruno Kreisky's Socialist Government. The reduction of the wide range of tax-deductible allowances for companies and self-employed professionals...

"We've got a right one 'ere!"



Or, meanwhile, back at Whopping Bloomers Ltd Francis the Rep, gets out of a very tight corner.

I'd been on the job all day. No, please, do you mind, don't be so common. You see, I travel in Ladies underwear. No, I don't wear it, de-verdick - I sell it for a living. No really, have pity, I mean, you should just try flogging great thick bloomers nowadays. Anyway, I'd just got back to the office when the new cleaner came in. Well, I know it's wicked to laugh, but really she had this, er, enormous, er, bottom. Honestly, it came in the door three minutes after she did! And, before I could say anything she'd lowered it onto my lap. Do you mind?, I said, 'You're squashing my aniseed balls!' 'Sorry darling' she said, 'I'm not that heavy am I?' You must be joking, I thought, but it was no laughing matter when she said, 'Are you getting fresh with me?' 'You should be so lucky' I said, 'the air in here's quite fresh enough for me thank you, 'cos we've got the new Advance ESF.' 'Who's that, Flash Gordon's uncle?', she said. 'I'll do the jokes if you don't mind' said I. 'But since you ask, it keeps the air really clean from stuffiness and smoke, even when the directors are puffing on their big Havana's in the Conference room.' 'I bet you've got a big Havana', she said. Gordon Bennett, she'll have to go, I thought. 'Listen Crab face', I said, 'We rent it very economically, it's part of the professional service we get from those nice Advance people. There's no need to open windows, and unlike extraction units it doesn't waste heat, so the Company saves on its bills. In fact, they can afford to give me a rise.' 'I'll give you a rise darling', she said. I ignored her coarse remark, and continued. 'And the Chairman's wife needn't go mad ordering new curtains and things, 'cos the deor stays cleaner for much longer.' 'Oh stop jawing' she said, 'I'm going to clean out Rumbold's drawers.' Oh well, I thought, whatever turns you on, But thank goodness for Advance ESF.

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Scope for big tax cuts forecast

By Michael Blanden

THE GOVERNMENT will have scope for substantial tax cuts over the next few years, according to the latest monthly review published by Messel, stockbrokers.

Their calculations show that on present tax rates and spending plans, the Budget deficit is likely to drop sharply, moving into surplus by the 1980-81 financial year.

The reflation package which the Chancellor is expected to announce shortly is likely to be on a relatively modest scale, keeping the public sector borrowing requirement for the current financial year within the £8.7bn ceiling.

Next year, however, the Budget deficit will come down to £4.3bn, the brokers forecast, and in 1978-80 it will drop to 1.2bn. By 1980-81, on unchanged tax rates and spending, there would be a surplus of £1.7bn.

In other words, the brokers say "there is scope for tax cuts with jeopardising the recent improvement in the Government's finances." If the projections were correct, "some radical possibilities are opened up for the gilt-edged market."

Report on beer 'contains errors of fact'

BY KENNETH GOODING

MANY CONCLUSIONS in the Price Commission's report on beer are "totally misleading and potentially seriously dangerous not just to the brewing industry but to industry as a whole," says Mr. Colin Mitchell, of stockbrokers Buckmaster and Moore.

If the incorrect conclusions in such reports are to be acted upon, the effect on the U.K. economy could be very harmful.

Mr. Mitchell, the only stockbroker to be asked for evidence when the Price Commission was preparing its report, has sent a further submission to the Department of Prices.

In this, he says that the Price Commission's original terms of reference enabled it to ignore vital aspects of the brewing industry's activities.

Insufficient time was spent on the preparation of the report, resulting in numerous errors of fact.

If the report is used as the basis for a freeze on the price of beer it could:

- Damage future and essential investment plans;
- Raise unemployment in industries supplying the brewers and in the brewing industry itself;

Lead in the demise of many small brewers which have a great need as others for price increases to help finance investment.

Result in many public house closures, especially in small communities.

Mr. Mitchell says in his submission to the Department of Prices, that the implication in the Commission's report that the big brewing groups spent large sums with reckless abandon on a variety of highly dubious projects was "highly damaging and totally false."

If the companies had not invested in modernisation, replacement and the building of breweries and ancillary facilities "prices might now be slightly lower but ultimately the brewers would have been obliged to make such investment — and capital costs have risen eight-fold in the last 15 years."

Thus, if the brewers had not had the foresight to invest when they did and simply waited until their plant and equipment was beyond repair, the consumer would have been forced to pay substantially higher prices than he is now paying.

Butter stocks rise in U.K.

FINANCIAL TIMES REPORTER

LARGE STOCKS of butter will build up in British stores over the next few months as Danish, German, Dutch and French exporters seek to beat a January 1 deadline for the ending of a Common Market subsidy worth £145 a tonne to them for all the butter they send to the U.K.

Exports in the trade estimate that by the end of the year stocks will reach 200,000 tonnes—double the normal figure and equal to nearly six months' butter consumption.

It is suggested that this move will be good for Britain as it will defer for several months a 7p a pound price rise for butter, which would otherwise have come as a result of Britain's final move into full membership of the Common Market.

The subsidy has been paid to compensate EEC exporters for lower prices in Britain during the five year transition period. It is ending because the manufacturing price for U.K. butter goes up by £145 a tonne when the transition ends on January 1. In theory, this will bring U.K. butter prices into line with the rest of the EEC. In fact, they will still be about 30 per cent lower because the "Green Pound"—the EEC's exchange rate for translating common farm prices into sterling—is still that much overvalued.

So the EEC exporters will get subsidies to cover the difference on all the butter they send to the U.K. — keeping butter prices down here at least until Mr. John Silkin, Farm Minister allows some devaluation of the "Green Pound," probably in late spring.

In any case, butter prices will start to go up later in the year as the stocks now being built up are consumed. And they will be pushed up even more unless the EEC agrees to continue its 81p per pound subsidy fought for by Mr. Silkin during the last farm price talks.

The change to full membership could bring chaos to Britain's dairy industry, faced with increasing milk production and falling consumption of both butter and milk.

Consumption could fall further if the price of the 40-step price of milk goes up to 33p per January with the ending of special subsidies.

U.S. 'heads for further recovery'

THE U.S. economy was heading for continued recovery, with the annual rate of real growth expected to be about 4 to 4.5 per cent, a leading U.S. bank economist said yesterday, writes Michael Blanden.

Mr. Norman Robertson, chief economist of the Mellon Bank, admitted that the economic upturn had moderated the economic growth.

But the prospective growth, he said, was a healthy sign, since the economy could not have sustained its previous pace without risking a new boom-bust cycle of business activity.

The expected expansion rate was a move back towards the economy's longer-term growth potential of 3-3.5 per cent a year. The picture was far more hopeful than indicated by the over-pessimistic reactions to the U.S. recently which had suggested that the country would soon hit a new recession.

Home improvement funds distribution 'unfair'

BY MICHAEL CASSELL, BUILDING CORRESPONDENT

THE REGIONS located furthest from London are receiving less than their fair share of home improvement funds, according to a report published to-day by Shelter.

But London needed "every penny it is receiving and more," according to the report which is opposed to reducing the capital's housing expenditure to the levels operating in the regions. There should be, instead, a threefold increase in improvement expenditure concentrated in the deprived districts of Wales and the North.

Last week, Mr. Reg Freeson, Minister for Housing and Construction, acknowledged that improvement stock should be given even greater priority.

The Shelter report says: "The further you go from London the less money for improvement you

seem to get. Although the north west and Yorkshire and Humberside each appear to have a greater need for improvement funds than London, the capital is receiving £290m, while the north is getting only £98m, Yorkshire and Humberside is receiving £62m."

The report also claims that while the Government is suggesting that in many areas the housing shortage is over, there is a continuing need to build more homes in every county in England.

It claims that while the Government says the housing shortage has been solved in Northumberland, Cornwall and Norfolk, it has figures in show that over 60,000 homes will be required in those regions over the next decade.

Housing Crisis Nationwide, Shelter Publications, 137, Waterloo Road, London SE1 8LU, £1.

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هلادان الاصل

Butter stocks rise in U.K.

# £1bn. tax relief is possible brokers claim

BY MICHAEL BLANDEN

THE GOVERNMENT could give an extra £1bn. of tax relief through higher personal tax allowances in the expected economic package, says stock-brokers Phillips and Drew.

The brokers also suggest in their latest economic forecasts that the Government could approach the International Monetary Fund next month to negotiate the monetary ceilings for next year.

Given the improvement in the U.K.'s financial position since the end of last year, "it seems likely that the IMF would agree to some reformulation of this restriction acceptable to the Government."

In return, the Government might refrain from drawing further tranches of the IIFP credit facility.

Given a successful outcome to the IMF discussions, "it seems likely that some measures to alleviate unemployment will be announced before Christmas."

These could include further job creation and retraining schemes and some extra public spending on capital projects to be met out of contingency reserves.

The Government could be tempted to go much further. The Chancellor could inject more than £1bn. into the economy by making full use of the regulator to cut indirect taxes.

But they likely, would be a cut in VAT rates to 8 per cent, and 10 per cent to cost £500m.—this would be enough on the brokers' forecasts to bring the year-on-year inflation rate down to single figures in the second quarter of next year.

But they believe that the Government would prefer to cut direct taxation further.

Looking at the pay prospects, the forecasts indicate that pay rises will increase to give settlements this winter in the 15-20 per cent range and that the increase will continue through next year as demand tightens.

Given this increase, the Government might feel it could reflate the economy further in the Budget next spring. This could involve a £1bn. cut in direct taxes—including the indexation of allowances—partly offset by a modest increase in some Excise duties and corporate taxation to leave a net figure of £250m.

# Murray defends Peachey loan

LORD MURRAY, the former aide to Sir Harold Wilson, confirmed on Saturday that he had been given a £10,000 loan by Peachey Property and paid £5,000 a year salary as consultant.

But he denied that the loan had been made by the late Sir Eric Miller, former chairman of the company, or that there was anything sinister about the payments.

Sir Eric shot himself at his London home 12 days ago.

Lord Murray, formerly Albert Murray, Labour MP for Gravesend, said: "I have done nothing that I would not stand up in a court of law and defend."

"I took up a consultancy with Peachey in September 1976, after leaving Sir Harold Wilson's office in July. Was I expected to go to Sir Harold Wilson and ask him if it was all right?"

He had offered to make available documents concerning the loan and the consultancy to the Sunday Times, but the offer was not taken up.

"This could do me irreparable harm. Both Peachey and the Sunday Times are suggesting that this money was from Sir Eric" (Sir Eric Miller).

# Heffer fears attacks could split Labour

BY JOHN HUNT, PARLIAMENTARY CORRESPONDENT

A WARNING that the campaign about attempts to be made later this week to remove Left-wingers from the party's national executive. This would be un-given yesterday by Mr. Eric Heffer on the eve of the Labour Party conference.

At the pre-conference Tribune group meeting in Brighton, Mr. Heffer, MP for Liverpool, Weston, said that the campaign—beginning earlier this year against militants in the constituency party—could broaden into a witch-hunt against the entire Left.

He was particularly concerned about attempts to be made later this week to remove Left-wingers from the party's national executive. This would be un-given yesterday by Mr. Eric Heffer on the eve of the Labour Party conference.

The MPs on the platform were unhappy at the Lib-Lab pact, demanded reformation to bring down unemployment, called for inquiries about the credentials of Left-wingers, which would be the beginning of very bad days for the Labour Party, he said.

During a question and answer session with 15 members of the Left-wing Tribune group, it became apparent that the conference would not lack subjects for lively clashes between the Tribunes and the party leadership.

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# Labour EEC critics again reject direct elections

BY PHILIP RAWSTORNE

MR. PETER SHORE, Environment Secretary, and other leading Labour critics of the EEC, yesterday reaffirmed their strong opposition to European direct elections.

Their attitude suggests that Mr. James Callaghan, Prime Minister, will again face serious difficulties in trying to push the Government's legislation through Parliament next session.

Neither Mr. Callaghan's statement on the Government's EEC reform policy, nor the importance attached to the issue by Liberals as a test of the Lib-Lab pact, appears to have weakened the hostility of Labour anti-Marketisers.

Mr. Shore, speaking at a meeting in Brighton of the Labour Common Market Safeguards Committee, said that with direct elections the Strasbourg Assembly could not "help but become an instrument for the propagation of European union."

"All the more reason, therefore, why it should not be allowed in its functions and powers to challenge the authority of national parliaments, why it should never become a legislature but always remain a consultative body."

The safeguards committee, in a statement on the Prime Minister's letter to Labour's National Executive, demanded that Labour Ministers and MPs should be allowed to retain their right to a free vote on European direct elections. Bill Welcoming Mr. Callaghan's reference to increased Parliamentary control over the EEC called for the amendment of the European Communities Act to restore the minister's power to reject a legislation from Brussels.

# Left attacks Mrs. Colquhoun

BY IVOR OWEN, PARLIAMENTARY STAFF

MRS. MAUREEN COLQUHOUN, an active supporter of the Campaign for Labour Party Democracy and its central aim that all Labour MPs should be subject to a mandatory reselection process by their constituency parties during the lifetime of each Parliament.

An examination of the voting figures in Northampton Labour Party would show that the decision to "dismiss" her was not fully representative, she said.

"After my experience in Northampton, I really feel I must say I do not feel that accountability is proper in what is a dying Labour movement."

Mrs. Colquhoun's words were almost drowned by disapproving shouts and she was later accused by Mr. Ted Kriebel, prospective Labour candidate for Hornsey, of insulting the meeting by going to the platform to defend the position of non-reselection.

Strong support was expressed for the view of Miss Joan Maynard, MP for Sheffield Brightside and a member of the Labour NEC, that a firm decision should be taken at this week's conference in favour of the principle of mandatory reselection for all Labour MPs.

There were repeated promises of support for the attempt to be made at the Labour Party conference today to set a specific vote on the immediate implementation of the principle.

# Some casual building workers 'unavoidable'

BY JAMES McDONALD

TOTAL DECASUALISATION is impossible in the construction industry, says Mr. Reg Prentice, former Labour Overseas Development Minister. The aim should be to "limit the casual element as far as possible and stabilise conditions to the mutual benefit of employer and employee."

Mr. Prentice writes in National Builder, journal of the National Federation of Building Trades Employers, that the Trades Union Congress is an "avowed protagonist of decasualisation."

In the industry, while the Federation, rightly in his view, does not believe total decasualisation possible.

It was "realistic" of the employers to favour efforts to improve employment stability.

Mr. Prentice, MP for Newham North-East and Minister of Works in 1964-66, adds: "I do not believe that some degree of casual working in the construction industry is avoidable, nor do I believe that it is as harmful to those involved as its critics claim it to be."

# New insurance rules follow EEC pattern

FINANCIAL TIMES REPORTER

NEW REGULATIONS imposing requirements of the EEC for solvency margins of insurance companies have been published by the Department of Trade.

Under the EEC directive last year the solvency rules are to be introduced by July 1978. Rules implementing EEC requirements of general insurance business will be replaced by the 17 set out in the EEC directive.

The existing solvency regulations will be replaced from July 31 by rules requiring a British company to maintain a margin based on the higher of two sums calculated by reference either to its premium income or to its record of claims.

The industry says its present solvency margins are sufficient to avoid difficulty in meeting the EEC rules, which in general terms impose a 16 per cent margin.

Under the January 1 regulations, the present six U.K. classes of general insurance business will be replaced by the 17 set out in the EEC directive.

The existing solvency regulations will be replaced from July 31 by rules requiring a British company to maintain a margin based on the higher of two sums calculated by reference either to its premium income or to its record of claims.

# Three oil groups set up new medical service

BY RAY DAFTER, ENERGY CORRESPONDENT

THREE OIL groups have joined Aberdeen University to establish an offshore medical services company.

British Petroleum, Esso and Shell—each of which is heavily committed to North Sea oil development—will be the industry partners in the venture.

The new company, Offshore Medical Support, will offer a medical service to the offshore industry including diving operators. BP (50 per cent), Shell (25 per cent) and Esso (25 per cent) will make a total investment of £100,000 as initial financial support for the venture.

The money will be used to provide specially designed premises which will help to the university and which will be built on the Forsterhill site, Aberdeen.

Any profits made by the company will be available to the Institute of Environmental and Occupational Medicine for further development of the training and research divisions.

ONE of the U.K.'s largest oil module fabrication yards is to be mothballed before the end of the year.

John Brown Engineering Offshore's £2.5m. yard at Clydebank has no prospect of orders in the short term, and the company has decided to pay off the remaining 500 workers in the next two months.

John Brown said it could not foresee any improvement in the module-building market over the next 12 months, despite the recent go-ahead with development of the Murchison and Tartan fields.

# Tanker rates improve but outlook is pessimistic

BY OUR SHIPPING CORRESPONDENT

IN SPIKE of a low level of business in world tanker markets in the last week, chartering rates improved in some areas.

The tanker index, compiled by the Tankers (shipbroking) News, rose three points to world-scale 61. This index is based on one single voyage fixings for dry vessels and similar rates already in operation.

Shipbrokers are not, however, displaying much optimism. The amount of tonnage laid up or idle continues to climb and this week put in excess of 41m. deadweight tons. A critical factor in coming weeks will be the degree of oil consumption by those countries dependent upon it for winter heating.

Rates for very large crude carriers (VLCCs) out of the Arabian Gulf last week were a little better, reaching world-scale 24. No fixtures of ultra large carriers (ULCCs) were reported, but the rate forming the basis of negotiation remained unchanged at world-scale 19.

Mediterranean rates continued to show improvement, with 60,000 tonners for Atlantic voyages reported fixed at world-scale 60 and slightly larger vessels around world-scale 50.

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Irving Trust Company,  
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October 3, 1977

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Technical Page

EDITED BY ARTHUR BENNETT AND TED SCOOTERS

Treatment plant made to measure

MODULAR heat treatment plant called the Valen furnace system, designed by ICI's Cassel Heat Treatment Specialists, has been selected for installation in the transmission bearings division of the Ransome Hooffmann Pollard...

Makes heat exchangers

SUBSTANTIAL SAVINGS in production time and cost, and an improved product, has been achieved by Senior Platecoil following the installation of a computer controlled seam welding plant for the manufacture of plate-type heat exchangers.

Handling a big project

THE vast amount of preparatory work that was needed before embarking on the Thames barge project at Wottonville, port on the Great Ouse...

CONTRACTS AND TENDERS

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SECURITY Glass stops rifle bullets

ALTHOUGH the 7.62 Nato rifle will kill a man a mile away a British company has succeeded in making bullet-resistant glass that will stop three shots from 10 metres. It can also withstand three shots from 0.9mm hand gun at three metres.

Tudor Safety Glass Company, a Division of Doulton Glass Industries, is producing Royal Doulton Vynylex glass to specific requirements for security situations all over the world...

COMMUNICATIONS Warns of leaks in cables

MOST OF the Post Office's Intra-city telephone network cables are pressurised, to keep out moisture and when one of these cables may be carrying an essential signal it becomes essential that the location of any cable sheath faults be plotted quickly and accurately.

PROCESSING Postforms the edge

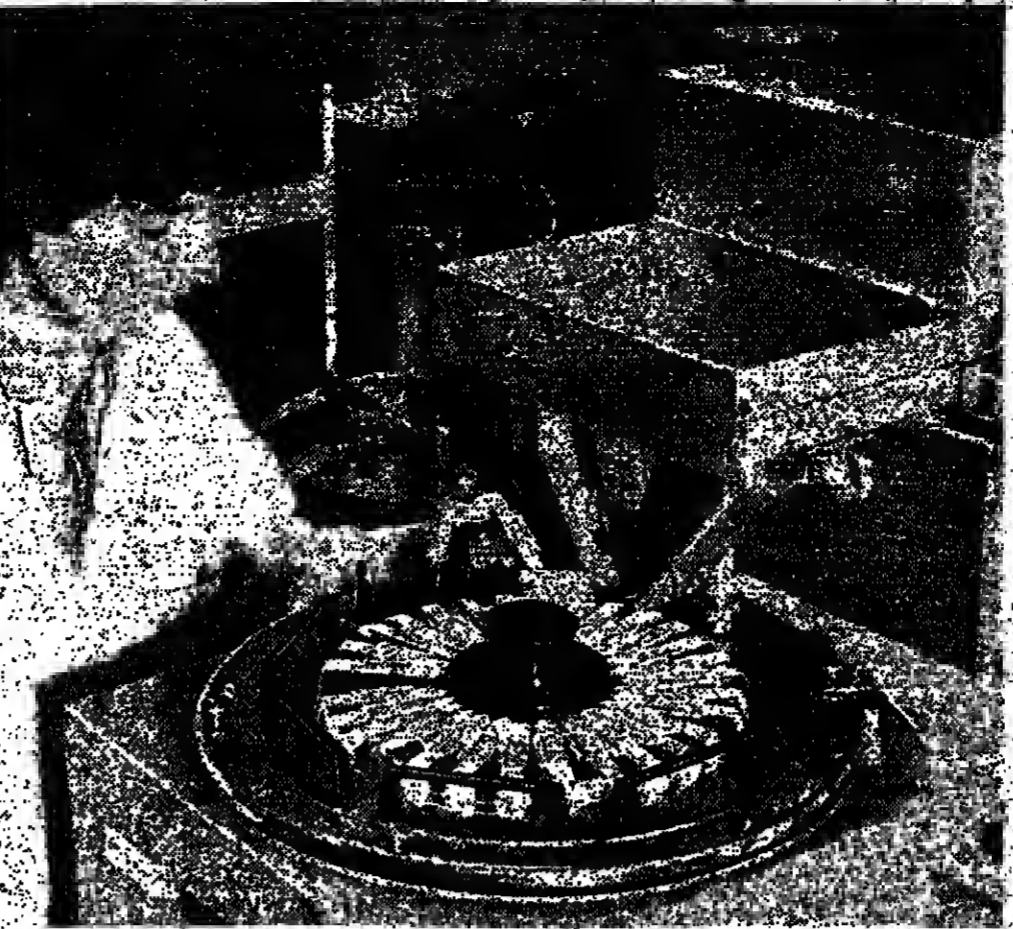
MELAMINE LAMINATE surfaced worktops can be manually postformed on the edges with a machine developed in West Germany by Anthon and Sons, of Flensburg.

INTERNATIONAL CALL FOR TENDERS COMPETITIVE TRADE

Tea Factory Karaga-Glyve Capacity: 1,200 tons made tea per year. System of manufacture: Rolovane/J.T.C. PARTY WHO GIVES THE BUILDING ORDER: Republic of Rwanda-OCIR/THE

TENDER NOTICE BY MECHANISED CONSTRUCTION OF PAKISTAN IRAQ BRANCH

MCPL wishes to purchase 100,000 tons of Portland Cement and approx. 5.5 million metres of Field Drainage Pipes, Corrugated, Plastic and Perforated in Various Sizes for K2-Irrigation Project.



Processing of blood samples taken by the Metropolitan Police for alcohol analysis could be speeded up considerably with the Vickers equipment shown here, now under evaluation at the police Forensic Science Laboratory.

laboratory staff are considering the use of the bar code reader terminal above, developed by Vickers Engineering design and projects division. This interprets bar code identifiers carried by a paper label on each sample which allows samples to be identified as they are tested in batches of 30 in a chromatograph.

Compact pager

DESK TOP paging systems are completely outmoded in a compact measuring 250 x 170 x 180 mm that can be simply plugged into the main telephone exchange operations.

Powerful actuator

OPERATED BY the standard 20 psi air line used for pneumatic valve actuators, a side mounted diaphragm actuator has been developed by Masoneilan in the U.S.

Smaller filter

A SAVING of almost 50 per cent. in both weight and size is claimed for a compact diesel air filter being introduced by Donaldson Europe for OEM applications on long-distance lorries.

Services Pipework analysed. BUREAU routines that enable advanced finite element techniques to be used to determine deformations, loads and stresses in pipework and pipelines are available from the Applied Engineering Division of Seicon Computer Services.

Automated control. SAINSBURY is accelerating automated methods to ensure prompt restocking of the shelves to about 100 62-in. larger food stores.

By agreement between the Financial Times and the BBC, information from The Technical Page is available for use by the Corporation's External Services as source material for its overseas broadcasts.

PLAN & MACHINERY SALES. Description Price Telephone. 8 BLOCK (400 mm) IN LINE, NDN SLIP WIRE DRAWING MACHINE in excellent condition, 0/2000ft/min variable speed 10 hp per block (1968).

Table with 3 columns: Description, Price, Telephone. Lists various industrial machinery items for sale, including drawing machines, rollers, and cranes.

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Laurence Brookes, Arthur Smith, Ray Slaughter

# BICC-people who make things work

A lunchtime drink provides three BICC Globetrotters with a rare opportunity to swap anecdotes about their hobbies — and to talk of the business challenges that have taken them across the world.

Laurence Brookes talks of rugby — his disappointment at missing Saturday's rugby match and his club St. Helens in triumph — and of Indonesia, the reason for his absence. He outlines the major logistics problem that has taken him to Indonesia — the supply of labour, material and equipment to no less than a dozen sites in the country where a BICC team is installing a \$54 million telephone network. He talks of personal pressures — particularly pressures of time, getting the right plant and equipment to the right site when it's needed — and of the challenge of maintaining effective liaison.



Expert training and supervision by expatriate BICC staff enables unskilled labour to play a major part in installing BICC cable for Indonesia's telephone network.

Ray Slaughter talks of the future — of a new technology which is about to revolutionise communications. For Ray, a research physicist, has devoted the last seven years of his life to work on optical fibre cables, as part of an eleven-man team, whose research has contributed to the world's first commercial installation, in a cable television distribution system, of this unique type of cable.

Ray tells of his travels, investigating suitable qualities of fibres and working towards international standardisation of the new materials.

Yet he still finds time for his hobby — photography. As he points out, his 'portable' hobby goes with him on his business trips, and his photograph album is worthy of any world traveller.

Arthur Smith turns the conversation to D.I.Y. — puts forward some novel designs. But his colleagues, more interested in his activities overseas, enquire after India and Indian Cables (Incab), with which Arthur has been connected since the early 1960's when he helped to design, and commission the thermoplastic cables plant. They question him about the progress of the Continuous Catenary Vulcanising plant which will reduce the dependence of Incab on imported paper and lead. They ask of the projects for which he is responsible in Pakistan, New Zealand and Australia and the contribution he is making to building the cable manufacturing capabilities of those countries.

Laurence, Ray and Arthur; rugby player, photographer and D.I.Y. enthusiast. Three of the 54,000 people worldwide who work for BICC — and make things work!



Main cable plant of the Indian Cable Company Limited (Incab), at Jamshedpur.

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Laurence Brookes



## Makes it work







# FINANCIAL TIMES SURVEY

Monday, October 3 1977

## Office Equipment

Old ideas die hard

By Max Wilkinson

THE IDEA that offices are in some way an unproductive drain on the resources of industry is deep rooted even where it is demonstrably illogical. The idea doubtless stems partly from the resentment which is felt against the large and growing bureaucracies of the Civil Service which are not only paid out of taxes, but usually spend their time collecting and spending a large proportion of the hard earned product of manufacturing industry.

This resentment is sometimes echoed within companies where the "paper pushers" cannot be seen to be creating the sort of tangible wealth which is flowing off the production lines.

These traditional attitudes may help to explain the reluctance of many companies to invest in capital equipment aimed at increasing the productivity of the office.

However, it is increasingly being realised that salaries saved in the office can have just as much effect on the ultimate balance-sheet as savings from automation in the factory. And the recent advances in computer based equipment and other

office machinery have demonstrated that very considerable savings are possible.

U.K. companies still lag far behind those in the U.S. and in Germany. This is partly because the very much higher secretarial salaries in those countries make automation a more attractive financial prospect. But there may also be a natural British conservatism at work, backed by a general reluctance to invest at a time when profits have been paltry and the economic outlook very uncertain.

The interaction of conservatism and financial stringency make it difficult to predict the future growth of the U.K. market. While, for example, plain paper copiers have found a ready acceptance and are now considered essential equipment in most companies, the term "word processing" may not even be familiar to some executives. Furthermore, the replacement of paper records by electronic storage or microfilm and the feasibility of electronic mail are still often considered dubious or at the least controversial.

### Marketing

The future of many parts of the office equipment industry will therefore depend greatly on the ability of the marketing men to change traditional attitudes as well as on the general economic fortunes of the country.

The change of attitudes is complicated by the fact that there are two separate revolutions now taking place in the office world. The first is in the vastly improved methods of handling and distributing information in the traditional way by means of pieces of paper. The development of the plain paper copier has been the most spectacular. The invention has

The ingenuity of manufacturers in designing new ways of bringing automation to the office has sometimes been frustrated by the conservatism of users. There is little doubt, however, that demand for improved equipment is increasing in the U.K.

now almost entirely obviated the need for repetitive copy typing which was a feature of many offices only a few years ago. This development has, perhaps, overshadowed the significant improvements which have been made to the humble duplicator, which is still the cheapest method of making multiple copies, and can now achieve very high quality. The linking of small offset litho machines with copiers can also provide a cheap and convenient means for making high-quality multiple copies.

Even the typewriter has been the subject of enormous improvements. The conversion from manual to electric, still far from complete, has been overtaken by the invention of printers which achieve speeds unimaginable a few years ago. The IBM ink jet printer, for example, can turn out 90 characters a second, which is some 15 times the speed of a competent typist.

While these and other inventions have improved the efficiency in the use of paper communications, a second revolution has been taking place which will, in theory at least, allow paper documents to be largely dispensed with.

In some companies in the U.S., this has already happened. Company finances, stock control, filing, even internal memoranda and reports are handled by computer. This radical change in working methods has been made possible by the rapidly in-

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The International Business Show will be held at the National Exhibition Centre, Birmingham, on October 11-20.

Increased capacity and reduced price of computer memories, and the improvement in peripheral equipment like display units and printers.

The technology for such change has already far outstripped the general acceptance of its implications. It is now possible for nearly all company information to be typed into a central computer, or more probably, into a network of smaller machines.

This information can be analysed continuously so that at any time the chairman or other executive can extract a breakdown of, for example, production figures, sales, stock control or even the holiday rota. Moreover, this can be done without

the aid of an assistant or even a secretary by direct access to the computer files through a keyboard and television screen (visual display unit). Programs have even been written which will make the computer respond to a spoken word of command.

### Typed

Similarly, departmental reports can be typed straight into a magnetic store where they can be accessed either by the author or by other collaborators working from their own visual display units. Such a report could go through several drafts before it is committed to paper, but even if successive copies

were made, they could be produced very rapidly on a high speed printer.

Such comprehensive integration of the processing of figures and words has, hitherto, only been possible for companies able to afford a substantial sized computer. However, the rapid increase in the use of microcomputers etched on a thumbnail slice of silicon and of small office machines has made a piecemeal approach more possible.

While, for example, Sperry Univac has concentrated on large systems like UNIS, their recently launched computerised package for manufacturing control, IBM has been approaching the office problem from the other end by adding electronic memories to the simple electric typewriter. The development of automatic typewriters into sophisticated word or text processing equipment is now beginning to merge with the larger scale computer systems, because individual work stations are increasingly being wired up to a central processor.

The power of computers is also being linked with microfilm techniques to give automatic access to a library either through a screen reader or a copier.

The electronics machines within larger offices will not only be wired up together but they will more and more be connected by telecommunica-

tions links with other offices in the same company or with other organisations. The enormous potential benefits from almost instantaneous exchange of data and electronic mail are still not widely understood. However, the keen competition amongst equipment suppliers indicates that a very rapid expansion of the office equipment market is expected in the next few decades.

The International Business Show which opens at the National Exhibition Centre next week (October 11) has attracted no fewer than 350 exhibitors covering 23,000 square metres of stand space.

### Revival

This show will be twice the size of the Business Equipment Exhibition two years ago, and indicates the large number of new manufacturers who are trying to carve out their place in the market as well as signs of a revival of the fortunes of the industry this year.

One of the difficulties for the smaller manufacturers is that the large parts of the market are dominated by multinational companies. IBM and Rank Xerox are obvious examples. Gestetner is an example of a smaller company which has achieved a worldwide coverage for its more limited range of products. The same pattern is being reflected in the emerging technologies like word processing and small business computers.

This pattern of worldwide markets served by international companies means that it is unrealistic to expect the U.K. to be self-sufficient across the full range of equipment.

There has been some concern in Government circles that U.K. manufacturers are not carving out a sufficiently large share of

the world market in the newer electronic fields. This is a legitimate general point when considering future trends. However, it is important to consider some of the so called "low technology" parts of office equipment as carefully as sophisticated electronics. Indeed, some relatively simple mechanical devices can have a major impact on office efficiency.

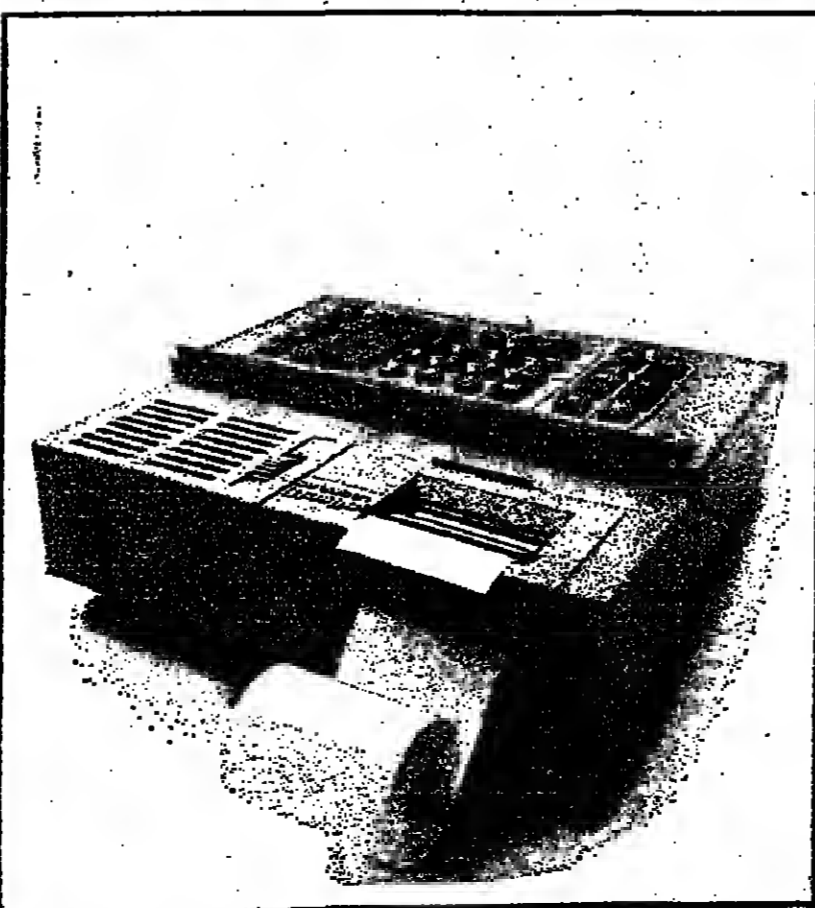
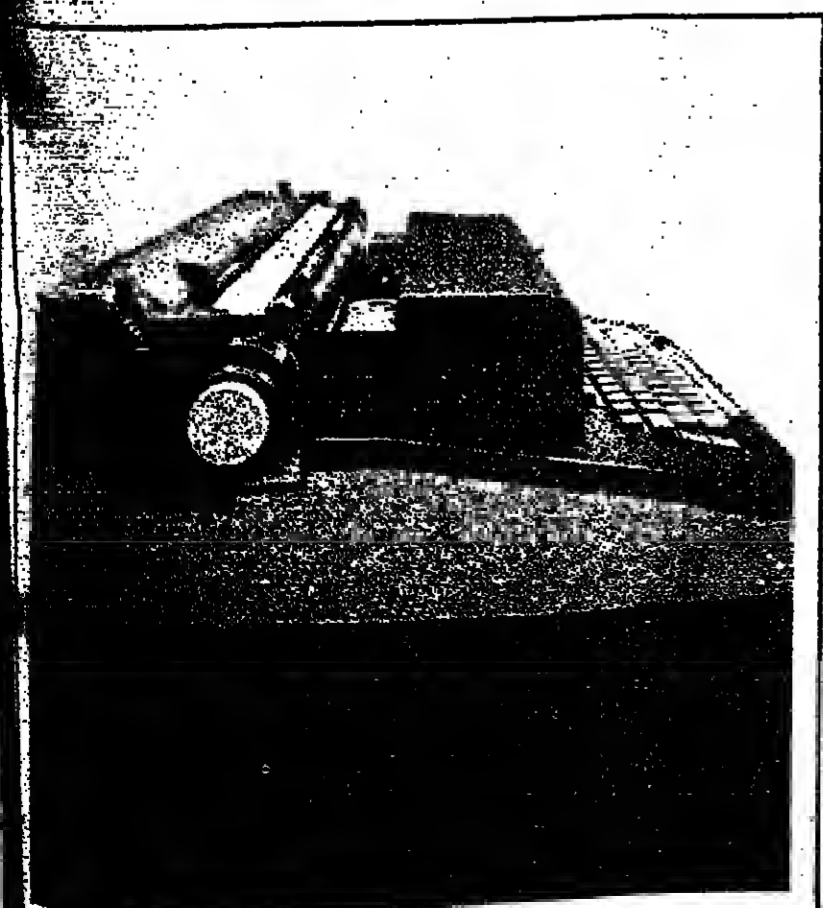
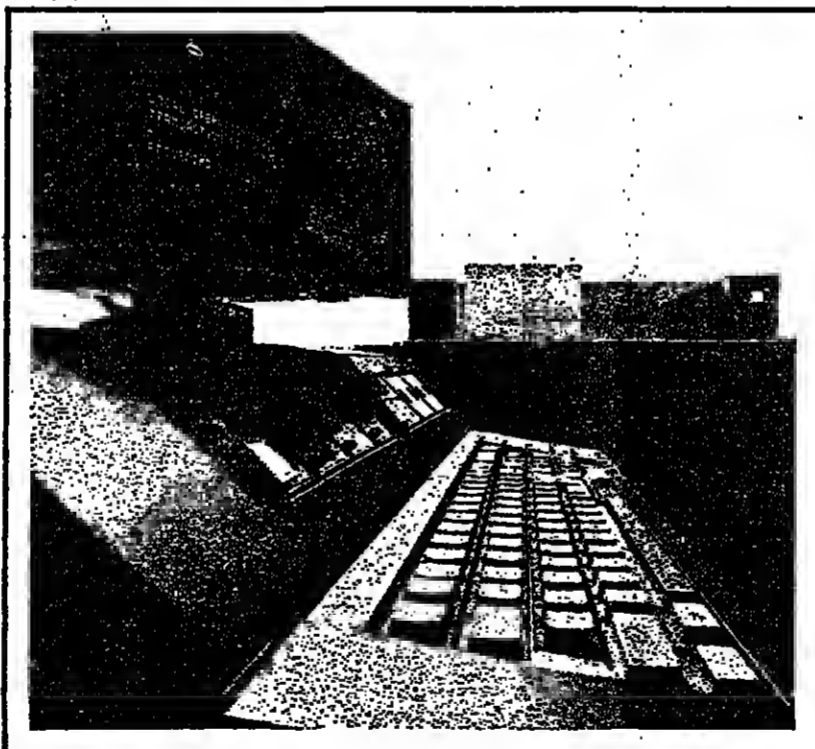
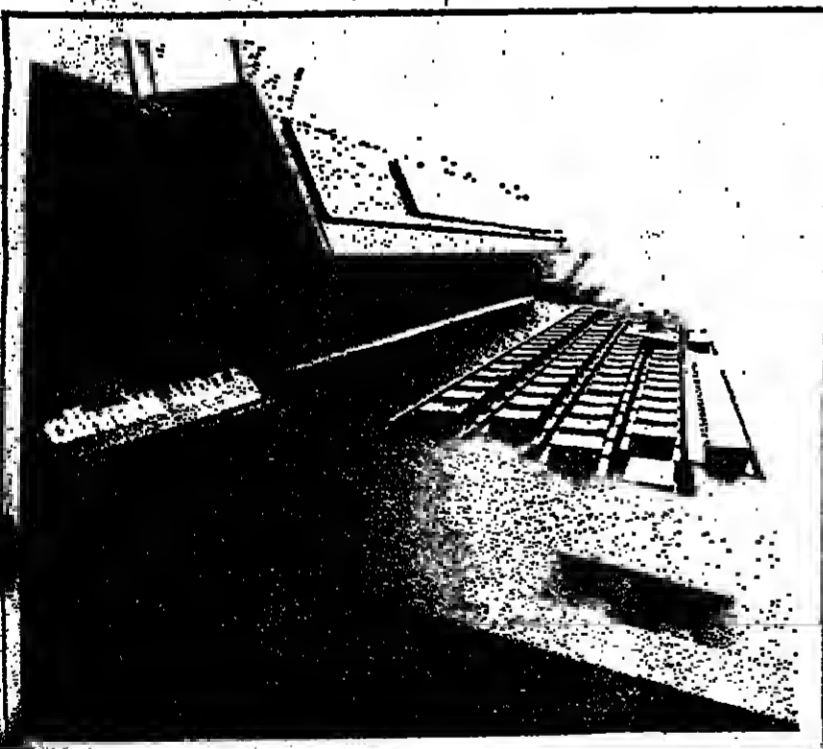
One obvious example is in the office copier field, where increasing emphasis is now being placed on automatic feed systems for the input of documents, and automatic sorting systems for the output.

Similarly, systems for conveying documents efficiently throughout a large office, may have a more important impact on overall efficiency than highly sophisticated machines for making multiple copies.

Similarly the claims of relatively old-established techniques like microfilming need to be considered against the emerging possibility of placing all records in computer storage; and enthusiasm for copies should not lead office managers to forget entirely the complementary virtues of duplication.

That said, however, it remains true that the major challenge for British manufacturers in the office equipment field will be to keep abreast of the truly amazing developments which modern miniature electronics have made possible. The challenge for the business world, and for the public sector will be to understand that automating the office is becoming, not merely a desirable luxury or a means of keeping staff growth in check, but an essential investment for those organisations which want to stay competitive with their opposite numbers in the rest of the world.

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OFFICE EQUIPMENT II

# Foreign companies make the running

THE STATISTICS covering office equipment are generally recognised to be inadequate. In belated recognition of this, the National Economic Development Office Secretary Working Party for the industry has recently started an analysis of how the coverage can be improved.

The task is important because the U.K. stake in the rapidly growing electronic part of the office machine market is in greatest risk of declining. In the industry as a whole, the U.K.'s product range can be compared with that of any other country except Japan and the U.S.

However, the Sector Working Party warns: "The U.K. manufacturing industry takes in its broadest sense of both British owned companies and foreign owned multinationals is not well placed at present to gain a significant share of the new opportunities arising from these changes. This is because, firstly, the British owned companies—many of which are of considerable scale and excellent market reputation, do not generally have an "electronics capability" and there is little scope to accelerate the learning process by joint ventures with U.K. firms with this kind of know-how."

ESTIMATED U.K. MARKET FOR ELECTRONIC OFFICE EQUIPMENT (£m.)

	1976	1977	1978	1981
Calculators	43	48	53	—
Electric typewriters	24	25	26	31
Automatic typewriters	3	4	4	5
Electronic cash registers	6	7	8	10
Electronic accounting systems	31	34	37	50
Dictation equipment	4	5	5	7
Plain paper copiers	49	46	70	85
Direct electrostatic copiers	9	12	14	19
Small copiers	25	30	50	50

Source: Mackintosh Consultants

However, the very large area of doubt about any figures relating to office equipment can be illustrated by the fact that the Business Equipment Trade Association currently estimates that its members' production at £1.5bn. in 1976 of which £689m. was exports. This figure, however, represents the output of a very wide range of companies many of whose products have very little in common except that they may both end up in an office.

Perhaps a more helpful way of looking at the problem is to break down the market into different product sectors. Mackintosh Consultants has done this in its Yearbook of West European Electronics Data, 1978, to be published later this month. It estimates the U.S. market for desk calculators in 1977 to be worth £48m. representing 6m. machines. For automatic typewriters it puts the market at £4m. or 3,000 units; electric typewriters, £25m. and 110,000 units; electronic cash registers £7m.; dictation equipment, £5m. or 130,000 units; electronic accounting systems £34m. and 22,000 units; office copiers £57.7m.

Represented

The U.K. is still well represented in the world market for electro-mechanical machines, which are likely to provide companies like Gestetner with a good living for years to come. In the range of products which increasingly depend on microcircuitry and computer-style peripheral equipment, the U.K. is now poorly represented, a dominant world position. Growth in this area is expected to be very rapid—perhaps 25 per cent a year. It has been said to have declined from 11.5 per cent in 1963 to 3 per cent in 1973. Average writers will grow from 400,000 in the U.S. in 1973 to 850,000 in 1980. In the EEC the market increase of 20 per cent per year period has been predicted, by 1980, total U.K. production

Peripherals

In addition to the market for computer systems and peripherals, which includes some specifically office-orientated equipment is put at £674m. The Mackintosh figures thus put the current market for electronic office equipment, excluding computers, at about £180m. in 1976 values. They show, in addition, that the fastest rise is expected in automatic typewriters where the market is expected to grow by 180 per cent to £5m. by 1981. However, the big money will, according to the predictions, remain in copiers where, in the 1976-80 period, it is expected to rise by 60 per cent to £260m. at 1975 prices to meet both the export target and the target for reduction of import penetration.

Growth

In addition to the main product groups which have been tabulated there is likely to be significant growth in the communications field with the end of IBM into the private exchange market with its 9750 store program control system. The U.K. market is estimated to be worth something over £30m. present. Facsimile transmission has been slow to gain acceptance partly because of machines marketed by different companies are not compatible. They are therefore used mainly for particular applications like the communication of copy to printer and the return of proof. In the longer term equipment capable of linking word processors to the telecommunications network can be expected to challenge facsimile equipment. It seems likely that in a longer term more and more emphasis will be put on communications, which would see to be one of the areas which has almost unlimited potential for future growth in the office equipment field.

Max Wilkinson

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Depression of any key sends an electric current through a unique combination of wires, which are connected to the receiver in such a way that the corresponding character is printed out. The inherent disadvantage is that the wires have to be in use for the whole of the time it takes to type a message. Modern machines use a paper tape which is punched at typing speed and then run through the telex transmitter at a higher speed, but even this does not approach the transmission speed which is possible in a completely electronic method of operation.

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**MITSUBISHI U-BIX**  
It's amazing what you've been missing. FT3/10

# Replacing the letter

IT MAY seem ironic that the Carter Committee's suggestion that the Post Office should be split up comes just at the time when pundits are getting excited about the prospects of "electronic mail."

For the very words imply a fusion between the traditional letter and telecommunications. However, this is not really the case, for electronic mail could, in theory at least, replace a large part of the present postal service obsolete.

Whether it will in fact do so will depend more on social than on technological progress, for there is little doubt that the transmission of letters by electronic means will soon be economically attractive as well as feasible.

The uncertainty is more about whether people will readily accept the change of format and style of correspondence and the quite radical challenge to traditional working habits.

There are several different forms that electronic mail could take. All of them have in common the fact that they depend to a considerable extent on electronic components which show every sign of continuing to fall in price, and that, once installed, they are economical in manpower. Traditional mail services, by contrast, can only be automated to a limited extent. They will always be labour-intensive, and as the cost of labour increases, they will tend to become relatively more expensive.

However, the economics of electronic mail are not simply a matter of drawing two curves—for the rising cost of postage and the falling cost of electronics—to see where they cross. It is necessary to consider the different types of mail and how they could be handled by an electronic medium. It is obvious, for example, that the majority of private households do not receive enough letters to justify the installation of a printer capable of receiving electronically transmitted letters. Indeed, many private letters are still written in ink on lavender-coloured otopaper, and doubtless the recipients would not want it otherwise. At the other extreme, where there is a large volume of correspondence between a few large offices, for example in banking, bulk deliveries by post may remain competitive with electronic transmission for some time to come.

It is likely, therefore, that electronic mail will continue to develop from rather specialist applications alongside the conventional methods of communication like the telephone and the post.

Although "electronic mail" has a certain science fiction sound about it, the basic concept is familiar through the telex network. Telex was not originally electronic, although modern equipment has become so. Telex was developed from the very simple idea of connecting a typewriter keyboard through a twisted cable to a printer at the receiving end.

Between New York and Francisco, the comparison works out at 13 cents by face mail and 2.5 cents by electronic mail. Clearly extra cost of the equipment needed for electronic mail will be taken into account; this will be installed in offices anyway for other processing functions. The standing advantage, of course, will be speed, when the operation of a letter can be speeded with the rapid response associated with the telex or teletype.

One of the main problems apart from getting users' acceptance, is that different processing systems may be incompatible. There is no reason in principle, why that hardware manufactured by one should not receive messages from another.

Continued on next page

السيد، مدير

OFFICE EQUIPMENT III

# Secretaries demand an electric typewriter

THE MAJOR and obvious trend in the typewriter market is the shift from manual machines to electric machines, a trend which is extending itself to take in secretaries as well as office typewriters.

There are, however, a number of special factors within this general shift which qualify the generalisation. In the first place, Britain lags behind the other advanced industrial countries in the speed of changeover and the distance travelled along the road to electrification. While precise figures on machines in use are impossible to obtain, informed guesswork put the ratio of electric to manual at around one-and-a-half to one. This compares with a Euro-

pean-in-use ratio of more than 2:1 and an American ratio of around 10:1 in favour of electric. Typewriter executives have no other explanation for this conservatism on the part of British bosses, allied to the reluctance of Government departments and especially local government offices to invest in electric machines.

But these executives are hoping for the efficacy of another factor—secretarial power—in the inevitable course of events. The continuing shortage of skilled secretaries gives them a growth leverage, not just on rates of pay, but on conditions in the office. The office manager who refuses to replace the battered manual with electric may find himself faced, not just with

complaints, but with non-compliance. This factor becomes stronger as the electric machines grow more sophisticated, increasing their attractiveness over manuals.

Third, though the domestic market is, reluctantly, going electric, there is a growing market in the developing countries which are at an earlier phase of office development, and which are demanding manuals in large numbers. More than 80 per cent of the manual machines which Olivetti makes at its Glasgow factory, for example, is for export.

Finally—a counterbalancing factor—innovation on manual typewriters has, according to the manufacturers, reached the limits of their ingenuity. Any further improvements to manual models will not be confined to extra luxuries like correcting keys, or a repeating shift key (a feature borrowed from the electric).

These basic facts determine the strategies of the big four typewriter manufacturers—Office and Electric Machines (the U.K. agent for Adler, Triumph and—since March 1975—Imperial), Olivetti, IBM, and the last of these, IBM, makes no manual or portable machines at all. OEM, which has around 40-50 per cent of the domestic market, is careful to push hard on the electric front as well, and reckons on about a 35 per cent share.

A notable feature of typewriter manufacturing is that with the acquisition of Imperial by Adler/Triumph in 1975, the last independent British typewriter manufacturer dis-



The electric typewriter is gradually becoming a standard piece of equipment for the modern secretary

## Letter

CONTINUED FROM PREVIOUS PAGE

on a competitor's equipment since printers and graphic storage devices will be basically similar. However, the programmes used to operate the machinery function differently. The text will be standardised if comparison by this means is to be of any use.

The main competitor to the plain paper copier which is connected by normal telephone links with a similar machine at the other end. The machine scans the original, converts the image to electronic pulses and sends it to the receiver where an exact duplicate is formed. Initially transmission times were comparatively low—up to 9 minutes per page—but manufacturers are steadily speeding up the process. The Kalle Infotec 6000,

for example, can make a copy of an A4 sheet in 35 seconds at its fastest speed. Longer, if needed, however, to make high quality copies. The advantage of facsimile machines or "fax" is that signatures, graphics and letterheads are transmitted just as easily as text. On the other hand, the relatively expensive equipment cannot be used for any other purpose, and different makes are, until recently, been incompatible.

However, SM is now marketing a portable desk-top facsimile transceiver, which it claims is compatible with "many other manufacturers' machines," and it is probably only a matter of time before the industry adopts a standard which will allow more flexible communication.

The development of electronic mail which aims to produce a paper or "hard copy" at the receiver's end must be considered alongside the even more futuristic possibility of dispensing with paper altogether by using television screens to display the written word.

The enormous advantage is that very many businesses and ordinary homes already have the basic equipment needed, a telephone and a television. The development of Teletext, the system which allows written words to be sent out on the broadcast channels simultaneously with normal programmes, is beginning to acclimatise the public to the basic idea.

entertainments. It is a small step however, to envisage individuals or offices sending messages to the computer, which could then be re-routed to be displayed on some other subscriber's screen.

This type of truly electronic mail will be most suitable for relatively short messages. However, it may in the not too distant future have considerable potential for businesses which wish to get in touch with customers, to advise, for example, that a repair is ready, send a quotation, or provide basic price information on request.

If the idea that big firms and government agencies will be communicating with the citizenry through their televisions has an unpleasant suggestion of 1984, it is sobering to reflect that by that date the technology will be well developed and the practice will be advancing rapidly.

Intense

The intense competition among the big four—which reaches such lengths that their executives are unwilling to release their estimated market shares—has meant that there is a high priority put upon innovation in the electric market.

The two basic types of electric machines, manufactured by all the big four companies, are the "typewriter" or "typewriter" machines and the "golfball" or "single element" model. The typewriter models are really electrified manual machines, in which the keys are made to strike the paper by electric impulses rather than finger pressure.

The golfball machines work on the principle of a single globe of about 1 inch diameter, with all the standard characters in relief upon it. Pressure on the keys causes two movements: first, an adjustment sideways and up or down to select the character required, then the movement of the bead to the paper.

The obvious advantage of the golfball is its interchangeability, allowing the operator to select a wide variety of types. Because of this interchangeability many companies see the trend within the electric market moving towards golf balls. But Olympia,

for example, prefer typebars each letter which its size "de-first golfball portable to be marketed. Made in Glasgow, virtually all of these machines are for the U.S. market. The 83DL features in "Fortune's" list of the best designed products over the past 25 years.

The next challenge for the big four companies is perhaps the golfball portable with proportional spacing: besides, there is a constant search for the noiseless typewriter, and for keys which can be activated by the merest touch of the finger.

The speed of the innovative process is such that in many offices, ageing Remingtons with metal keys co-exist with streamlined golfballs. This article was typed on one of the former sort, demonstrating either the conservatism of newspaper management, or the fact that journalists have much to learn from secretaries on office militancy.

John Lloyd

**"FOR GOODNESS SAKE... I'M DOING MY BEST"**

**WHY HAVEN'T YOU SENT OUT MY INVOICES?**

**WE MUST HAVE THOSE STOCK FIGURES, SIR.**

**THE CHAIRMAN WANTS YOU RIGHT AWAY.**

**WE HAVEN'T PAID.**

**MY PAYROLL IS 'UP THE SWANEE' AGAIN, OLD BOY.**

**I AM VERY DISTURBED BY THE CHAOS IN YOUR ACCOUNTS DEPARTMENT. STUPID ERRORS AND LATE PAYMENTS ARE GETTING THE COMPANY A BAD NAME. IT SIMPLY WON'T DO—I HAD EXPECTED GREATER THINGS FROM YOU!**

**I'M SORRY SIR, BUT WE ARE JUST NOT COPING WITH THE INCREASED VOLUME OF BUSINESS. I DESPERATELY NEED MORE STAFF.**

**NONSENSE MAN YOU HAVE FAR TOO MANY PEOPLE ALREADY. COME UP WITH THE ANSWER OR YOU'RE FIRED!**

**IT'S A NIGHTMARE THE OLD BOY IS RIGHT... IT'S ALL MY FAULT.**

**YOU MUSTN'T BLAME YOURSELF. SURELY IT IS JUST THAT THE WORK IS GROWING AND WE JUST CAN'T KEEP UP?**

**YOU WISHED TO SEE ME SIR?**

**HAVE YOU THOUGHT OF GETTING AN OFFICE COMPUTER?**

**THIS IS OUR 2000 COMPUTER. IT IS ALL YOU NEED TO HANDLE YOUR INVOICING, YOUR SALES, PURCHASE AND NOMINAL LEDGERS, ALL YOUR STOCK CONTROL AND REGULAR ANALYSIS FIGURES FOR YOUR BOARD.**

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**CERTAINLY, WE CAN OFFER AN ENTIRELY FREE PACKAGE PROGRAM, WHICH ADAPTS TO SUIT YOUR EXISTING ADMINISTRATION. IN FACT YOU WILL SEE YOUR PROGRAM ACTUALLY DEMONSTRATED BEFORE YOU PLACE YOUR ORDER.**

**NEXT DAY WITH THE CHAIRMAN**

**VERY WELL I AGREE... GO AHEAD.**

**IS IT EASY TO USE?**

**VERY.**

**AND A KENZLE 2000 IS THE COMPLETE SOLUTION SIR.**

**WILL IT MATCH MY PRESENT ROUTINE?**

**I AM PLEASED TO REPORT THAT YOUR COMPANY HAS MADE SUBSTANTIAL PROGRESS. OUR SUCCESS IS LARGELY DUE TO THE BRILLIANT EFFORTS OF OUR NEW FINANCIAL DIRECTOR WHO HAS TAKEN OUR ADMINISTRATION INTO THE COMPUTER AGE.**

**THANKS TO KENZLE**

**WELL DONE LAD.**

**KENZLE SOLVED OUR PROBLEMS. ASK THEM TO LOOK AT YOURS.**

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**The Ad is comy but I like the idea... now send the facts**

**My Name**

**My position is**

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**OFFICE EQUIPMENT IV**

**Word processing catches on**

WORD PROCESSING, that rather ugly term for automation in the field of producing documents, now presents a bewildering variety of concepts and equipment.

First, the confusion about what word processing actually consists of is more than a matter of semantics, because it involves basic thinking about where the secretary should fit into a modern electronic office, and what his or her tasks will be.

The most general definition coined by IBM in the 1960s was that "word processing is the sum of the activities involved in composing, dictating, recording, transcribing and typing words in the modern office."

Although that definition may appear rather vague and all-embracing, it is a helpful reminder that the total system between the conception and final production of a letter or report may be at least as important as the pieces of equipment, whether automatic or manual, which are used in the process.

Thus the re-organisation of secretaries into a typing pool, the purchase of dictating equipment and the setting up of automatic typewriting or computer controlled editing can all be linked.

Furthermore organisations with similar needs may come to very different solutions. One, for example, may favour a centralised solution with a pool of typists with computer style keyboards and visual display units (television screens) all linked to a central computer and one or two high speed printers for the whole system.

Another organisation may think it more important to give



The Contessa word processor, which costs less than £5,000.

individual secretaries more control over their own finished product. In this case secretaries would be assigned to a particular boss or group of bosses, and would have machines with their own independent processor.

The IBM definition also emphasises automation of dictating machines so that, for example, different "takes" distributed to different typists, may be as important as automation of the actual typing function.

However, in spite of this general definition, the term "word processing" has come to be associated more specifically with typewriting machines which use a magnetic memory to store text.

These machines are now produced in a wide range of sophistication, with some 20 different companies now competing in the U.K. market. Prices range from about £3,000 for a simple automatic typewriter. This can store text on a cassette tape or magnetic card which can be used to drive the printer. The machines have correction facilities of varying sophistication. The most basic requirement is for a program which will automatically re-align text when an insertion or deletion is made to the draft copy.

More sophisticated machines, which can cost £8,000 to £10,000, allow complete text editing with re-arrangement of paragraphs and alterations to layout performed on a visual display unit before and without the need for anything to be printed on paper apart from the final copy.

At their most sophisticated, word processors are almost indistinguishable from computer terminals. The operator may, indeed, have the facility for interrogating the computer to extract information like customer files and prices which can be automatically incorporated into a letter without the need to consult visual records.

It is likely, indeed, that the top end of the word processing market will increasingly merge with that of small office computers, particularly as the price of memories and processors is still on a falling trend.

The speed of change is, indeed, so fast that any purchaser would do well to pause for a moment or two to take a slightly philosophical view of the future. This must take into account the increasingly sophisticated use of microprocessors (computers on a thumbnail), where they will be connected to more and more links with other equipment and more extensive use of high capacity electronic memories.

In the next few years it is likely that these "shared logic" systems will move into the realms of computer technology where they will be connected to very large magnetic storage devices and will have the ability to drive sophisticated output equipment like, for example, photo typesetters. There will also be increased scope for linking word processing equipment to the telecommunications network to use them for direct communication as well as the generation of the written word.

At the same time, the expansion of use of microprocessors will give increasing power to the smaller, stand alone, systems which are likely to assume the functions now reserved for the more expensive machines.

In the course of this development it seems unlikely that all the companies now competing for the market will survive against the overwhelming strength of IBM and more recently Rank Xerox, which is marketing its own system using cassettes or cards and a relatively fast daisy wheel printer. More recently Olivetti entered the market with a medium-

price machine using disc storage and offering a window display, like that of a calculator. However, the smaller companies do have one advantage in the present very fast changing scene. That is that they can move more quickly with technological developments than IBM, which always has to consider the implications for its large number of machines which it already has in the field.

There is already a risk that too many incompatible models will be put on the market, that it will be difficult and expensive for the industry to maintain them. There is a risk, too, that organisations which buy equipment now will find it obsolete in a very short time.

The benefits will depend, merely on the type of work involved, but on what executives and typists can do with their old habits to match equipment's greater capabilities. Executives who draft letters longhand, or even those who insist on giving shorthand dictation, may not have a large part of the potential improvement in productivity gained by investing in new machines. Generally, it is in the areas which require a lot of routine typing, such as mail order firms, that the benefit will show up most. Word processing is also beginning to be used extensively in law firms and other offices which individually typed documents (for example, wills) often in a large proportion of text which can be standardised and processed.

At the same time, equipment is now becoming so sophisticated that machines are beginning to take a large part in composing letters which look as if they were entirely personal and individual.

Even letters of complaint received by a large organisation are now being answered automatically by the use of word processors. A large number of pre-recorded paragraphs answering the more usual complaints is stored on a magnetic disc. The person answering the complaint then only has to select the most appropriate paragraphs and insert a few words, sentences relevant to the particular case. In another application, details of an unemployment payment are calculated and printed out by a central computer in the form of a letter which is made to look as if it was sent from the manager, personally to the claimant.

It is indeed difficult to see how the complexity of word processors connected computers will eventually be able to handle.

At the other end of the scale word processing is opening the way to a vastly more complex and more efficient system office filing. For once letters and documents are recorded electronically, they can be stored and analysed electronically. A single document could, if necessary, be cross-referenced 100 times completely automatically, so that the relevant points could be extracted from a whole range of different files are being consulted. This would not even require a great sophistication on the part of word processor, for once a document has been recorded magnetically it can be fed into a large or small computer system for analysis and updating of the contents.

Max Wilkins



British Olivetti's TES 501 word data processing unit.

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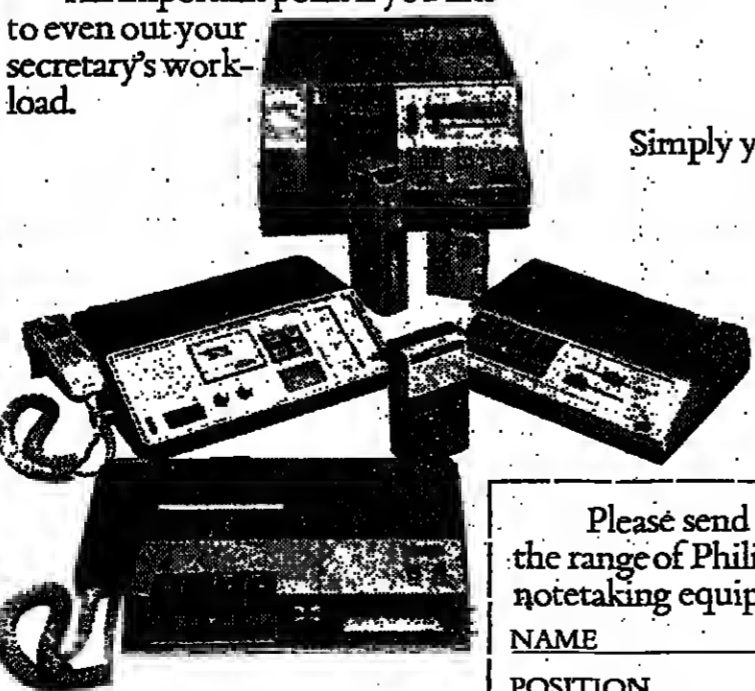
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# OFFICE EQUIPMENT V



A Multitone pocket paging communications system enables staff to keep in touch at the Joint Services Medical Rehabilitation Unit, RAF Cheshington. Several people can be "bleeped" simultaneously in cases of emergency.

## Telephone has big potential

FOR TEN years and more intended solely to deter on the opposite coast of the U.S. people involved in the comput- frivolous telephoning—though Benefits would include far- ing and telecommunications in- one effect of its inception in- greater clarity of transmission- dustry have been talking about- any situation is to reduce the- and freedom from delays, and- "convergence," that is, the pro- overall burden on the exchange- the whole system could prove- cessive approach and inter- by at least a quarter. It is- much cheaper to run than alter- penetration of computing and- aimed principally at providing- natives.

communications technology, an idea of which departments But it is only in the last five in a company are under- SBS has stated categorically- years that the true implications- provided with telephones, of- that it has no ambitions to run- of that word have been borne- call bottlenecks are, which- its services in Europe, which- are on the computer industry- occurring and which lines are- hardly surprising when the- and the manufacturers of ex- particularly bad. squabbles over launchers for- satellites and, the slowness of- change equipment—that is- The same kind of service can- Inter-PTT collaboration are co- sidered. There is a project to- since IBM launched and- be obtained by adding to exist- use a channel on the European- successfully marketed outside- ing exchanges equipment such- Arbatel Test Satellite when that- the U.S. its 3750 stored program- as the "Tiger" by Minter Auto- finally gets aloft, to transmit- controlled private exchange. mation or the Canadian Govern- data between laboratories. This- ment hacked unit from Inter- is a far cry from the "voice,- image and data" total service- aimed at by IBM.

Though it looked expensive- Both are based on small- computers and provide a com- Before the European tests- from the outset, the possibili- plete analysis of call patterns- take place, it is likely that a- ties it offered companies with- well as durations and costs. good deal of progress will have- a large head office of improv- They are, of course, much less- been made in the Netherlands- ing internal communications, as- costly than complete new SPC- with the Philips-originated TV- well as those with the outside- exchanges—which go down to- phooe. A limited network is- world, were such that IBM- about 80 lines—and tend to pay- installed, and while the equip- ment is still somewhat cumber- made rapid inroads into what- was formerly the preserve of- Plessey, GEC, IIT and Ericsson,- some, there is no doubt that it- can save an enormous amount- of executive time by removing- the need to travel.

Going back to the facility mentioned above of being able to select just two digits for frequently-made calls, leaving the PABX to do the rest, the PABX organisation has been working on equipment—some compact enough to go inside a handset—to do just that. Marketed at the moment in test areas by the Post Office, the equipment has taken some 6-10 years to develop and comes with various capacities for numbers. One unit, with ability to remember 64 ten-digit numbers, will also call as often as required to make the connection and will warn the user that his call is waiting.

The units do not use a micro-computer to drive them, although they could do so. Instead, a large-scale integrated circuit has been designed specifically to meet the purpose. According to Pyle engineers, this will not only be cheaper but will allow them to make the driver for the units much more compact.

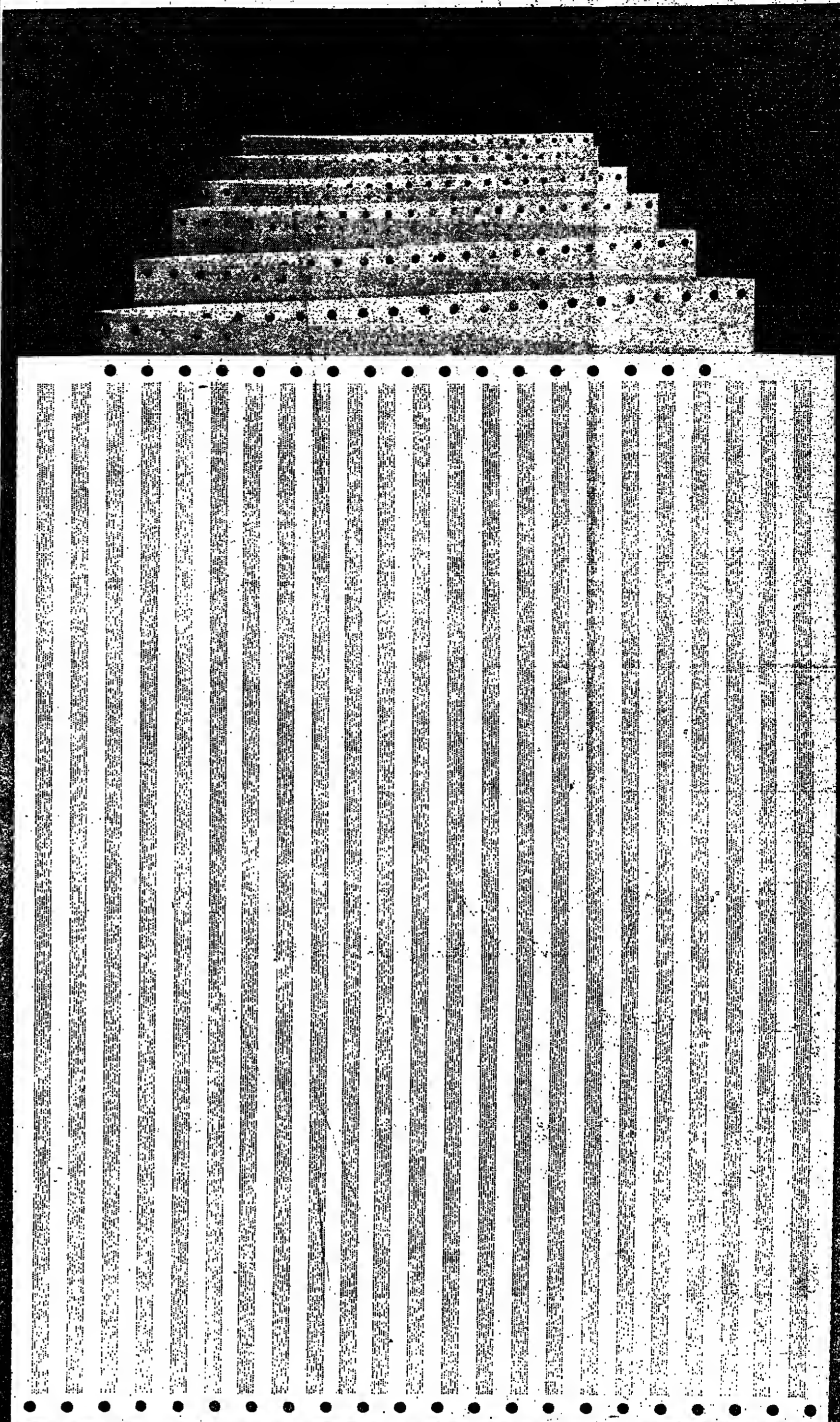
For Pyle/Philips, this kind of work is a natural since they have been in telephony for many years. But why should IBM become involved in what, for the corporation, appears to be totally foreign territory?

However, IBM is in "total communications" and must have been planning to get there as soon as the first communications satellites began to relay telephone and TV signals around the world. Despite some opposition, Satellite Business Systems (SBS) — Aetna Life/IBM — is moving ahead and is planning inter-company links which should be operational in 1979. The ultimate aim is to allow users to integrate all their requirements—voice, image and computer talk—into a unified and computer controlled system.

This flow of information would be channelled to the nearest of several hundred small earth stations, bounced off the satellite(s) and back to the recipient.

These are only a few of the options that equipment such as the 3750 and would-be competitor exchanges can perform. It certainly is offering users the PABX some interesting computational capabilities through links with users' own IBM computers.

An important task that such computerised units will carry out is to log and analyse the pattern and timing of calls. This watchdog service is not



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# Accounting machines

THE ELECTRONIC accounting machine business is going through yet another period of transition. These days development in most electronics fields is a swift process and the spin-offs that have developed from more conventional computer research have been keeping the accounting machine end of the business very much in the vanguard of technical progress.

At the moment customer demand is swinging away from what is generally known as the VRC to the SBS—from the visible record computer which needs the use of some form of hand-operated card to prompt it into action to the small business machine, the latest generation of accounting equipment which is virtually a mini (but fully fledged) computer. Over the past year the increase in demand for small business machines has been massive and sudden.

According to the Computer Information Centre—the client-based computer advisory service—the number of small business machines used for accountancy purposes rose by very nearly three-quarters in 1976. At the end of 1975 there were something like 3,500 small business machines in operation in the U.K., whereas in December of last year this figure had risen to around 14,600.

The switch in emphasis is being propelled by all the major manufacturers, with companies like Burroughs, NCR, and Philips attempting to increase their share of this important

business machine market. Together with Olivetti, these three manufacturing companies may control around 70 per cent. of the overall market in sophisticated accounting equipment. Burroughs holds something like a quarter of this market, with NCR not far behind with about a sixth. Thereafter the market abre ratios become more thinly spread, and the fringe areas are made up of any number of small to medium-sized suppliers.

This high degree of fragmentation within the accountancy machine industry makes it difficult to determine within any thing more than general lines just which manufacturing companies do what and to what extent. For the usual reasons associated with not wishing to intensify competition, manufacturing companies are loath to spell out exact levels of demand or the extent to which they have been able to build up a market share in any particular specialist area.

### Operation

In this country Burroughs machines—part of the Burroughs Corporation group in the U.S.—has been operating since it first began to manufacture business machines in 1968. This plant, in Nottingham, was an extension of the American Arithometer Company—the predecessor of the modern Burroughs—which was formed by the inventor of the first practical adding machine, William Seward Burroughs.

Burroughs Machine, which operates from eight factories in the U.K. employing some 6,000 people, first introduced electronics to its accounting equipment in 1964. Four years later the first major extension of the new technology came via the introduction of its L2000 series, the company's initial mini-computer. Since the 1960s increasingly sophisticated machines have brought new levels of productivity and flexibility through high level language programming and increased memory and processing power.

The company makes no secret of the fact that its latest equipment is a straightforward development of its early adding machines—and equally that the newest models, the small business machines, is where it is now concentrating most of its efforts. The major difference between the visible record computers and the small business machines lies in the latter's memory bank. The former demanded the insertion of some form of card, either punch or magnetic, whereas the small business machine has its information pre-fed on a disc.

Philips Data Systems points out that the new machines are in reality a simple extension of the conventional computer—and as such are easier and cheaper to maintain and less labour intensive, that is even freed of manual demands than the earlier generation of accounting machines, the visible record computer. But perhaps the main attraction of the small business machine is its ability to expand at will.

Depending on the addition and use of peripheral software, the small business machine can, once the basic animal has been installed, be enlarged freely and easily along with the growth and expansion of any business into which it is fitted. Most manufacturing companies provide advice on the best way to site their equipment—and leave room for expansion. In this respect Philips Data Systems, which is part of Dutch Philips Lanka group, is no exception.

### Range

The company's range of electronic accounting machines starts with its P300 models. This year Philips Data Systems reckons that its sales are running at best ever levels: in 1976 the company managed to lift production per sales executive by very nearly two-fifths, and during the first six months of the current year this figure is still as high as a third—despite an increase in sales personnel.

This end of the accounting machine market is, however, still largely the province of the bigger manufacturing companies. There are any number of smaller operators, especially in the U.K. where most smaller business machine companies simply market other companies' products.

Oyez group, Solicitors Law Stationery, is a case in point and so is Ozalid along with Office and Electronic. Earlier this year Ozalid accepted a takeover offer from the Dutch group Oce van der Grinten, but it still markets calculating

machines through its subsidiary Calcultronics International (Nig Banda). Adler business machines are promoted in this country by the Office and Electronic organisation.

There are, of course, few areas of business that modern methods of accounting have not infiltrated—even the staid and sometimes Dickensian legal profession has had its commercial practices bombarded by the computer manufacturers in recent years. The latest attack has come from Solicitors Law, the printing, publishing and stationery company whose turnover in 1976 came close to £17m.

Solicitors Law has just entered the desk-top accounting machine market with a machine which, with programming and trading, costs £4,650 excluding VAT, or roughly the annual salary of a top legal secretary. Little larger than an electric typewriter, the new system will handle the workload of any legal practice with up to 5,000 live accounts. The machine is manufactured by LogAbar and has been programmed to specifications laid down by Solicitors Law which has some 160 years of experience in serving the legal professions. The system is built around a microprocessor and this is the key to its power, low cost and compactness.

Continuous stationery and ledger cards are handled automatically, and it is claimed that the machine can be handled with little or no knowledge of data processing.

Jeffrey Brown



The Oyez LX 2012 Solicitors' Accounting system.

## The duplicating revolution

OFFICE MANAGERS can be forgiven for assuming that duplicators are at the lower end of the office equipment market. Their image is that of the lanky machine in the corner of the committee rooms, which produces leaflets for the church fete or the local candidate, sloppily and inefficiently.

This image is reinforced by the fact that of all the equipment considered here, the duplicators have changed the least. Innovations in typewriters, word processors and copiers proceed apace, while duplicators largely remain unchanged.

Reality conforms to the image to only a limited degree. It is true that spirit and stencil duplicators have changed little over the past decade, though there have been modifications which have made them generally cleaner, faster and more efficient printers. But at the other end of the market, there is considerable scope for innovation.

One of the major reasons why there has been comparatively little tinkering with the spirit and stencil models is because a high value is placed upon their small size and the cheapness of producing copies. Copy volumes are often so high for many of the organisations which will use small duplicators, and copy costs must be kept low. Xerography and offset reproduction is often too expensive to be considered as an option—it is either a duplicator or nothing.

The attraction to the people and institutions who buy such duplicators is obvious enough. But what is the attraction to the manufacturers? Most companies in the office equipment business stress their need for a high volume of sales and a good profit margin: so why bother with spirit duplicators? The market is, in this case, benign. There is a constant need by the users of spirit duplicators for supplies: and most will consume two or three times their capital cost in supplies each year. So there are a number of companies very much in the market: Ofrex and Ozalid still probably taking the lion's share of it in the U.K., together with the Gestetner subsidiary Rex Rotary, and Roneo-Vickers.

Stencils are a little higher up the scale: more sophisticated, but still a good deal less so than offset machines, and much less costly to run. Stencil machines are around the £400 to £700 range: once again, manufacturers find them attractive principally because of the supplies they use. Gestetner and Roneo-Vickers are very much the dominant companies in the stencil market, while there is some importation of Rex Rotary machines. Gestetner exports a large quantity of machines from its factory in Tottenham: a recent report estimated that 55 per cent. of its duplicator turnover was accounted for by stencil duplicators. The company probably has half of the world stencil market.

The market for stencil machines is a large one—because of their cheapness—and has recently received an impetus because of the recession. Managers, especially in relatively small offices, can achieve considerable savings in expenditure, if not in employees' time—by installing a stencil duplicator rather than a copier. It also tends to be a loyal one: customers usually replace old stencil machines with new ones, or are attracted by the more sophisticated versions.

Gestetner especially—moving away from the church hall image—is constantly experimenting with new peripheral devices, as for better copy

registration (allowing for more accurate overprinting), and a few years ago introduced Faxil for producing high quality stencil masters. However, the report on duplicators stressed that much of the market was replacement rather than new users—as far as could be determined—and thus forecast a growth no higher than 5 per cent. per annum. With this very much in mind, some of the companies—Gestetner included—have been moving into the copier market, where all agree sales will boom, years to come.

Finally, at the heavy end of the market, we find increasing specialisation. The machines here are produced with professional printers in mind, where the requirements are more precise and exacting than those of office managers. Quality is perhaps the most important criterion. Gestetner, Roneo-Vickers, Rotaprint, Addressograph-Multigraphics and AB Dick all compete in the big-offset field, split both to jobbing printers and (more importantly in recent years) to in-plant printshops. The strength of these machines continues to lie in the quality of reproduction they produce, even though the gap between their quality and that of Xerox graphic machines has narrowed considerably, especially with the introduction of such machines as the Rank Xerox 9200.

### Processes

A word on the processes involved. Both spirit and stencil duplicators require masters to be prepared before printing can begin. In the case of spirit machines, the master is usually coated on one side with china clay, and placed in contact with a transfer sheet, coated with wax or dye. By writing or typing on the plain side of the master, a laterally reversed image in wax and dye is produced. The master is then attached to the drum of the machine, and contact with successive sheets of spirit-damped copy paper releases a small quantity of dye, giving a correct copy on each sheet.

In the case of stencils, the master consists of a thin tissue coated with a plastic material. The coating seals the tissue, preventing the passage of ink onto the typewriter or other method. The master, once typed, is clamped on to the machine's drum, and pressure causes the ink to penetrate through the cut areas on to the paper fed into the machine. Offset lithography used to be quite different from spirit and stencil duplicating, and in operation, it still is. But in recent years, small table-top offset machines have challenged the spirit and stencil duplicators for convenience, and the market is growing. Roneo-Vickers, for example, markets only table-top machines, and Gestetner has a variety of table-top machines on the market. The major suppliers and manufacturers are, in order of volume of sales in the U.K., Addressograph-Multigraphics, John Lloyd

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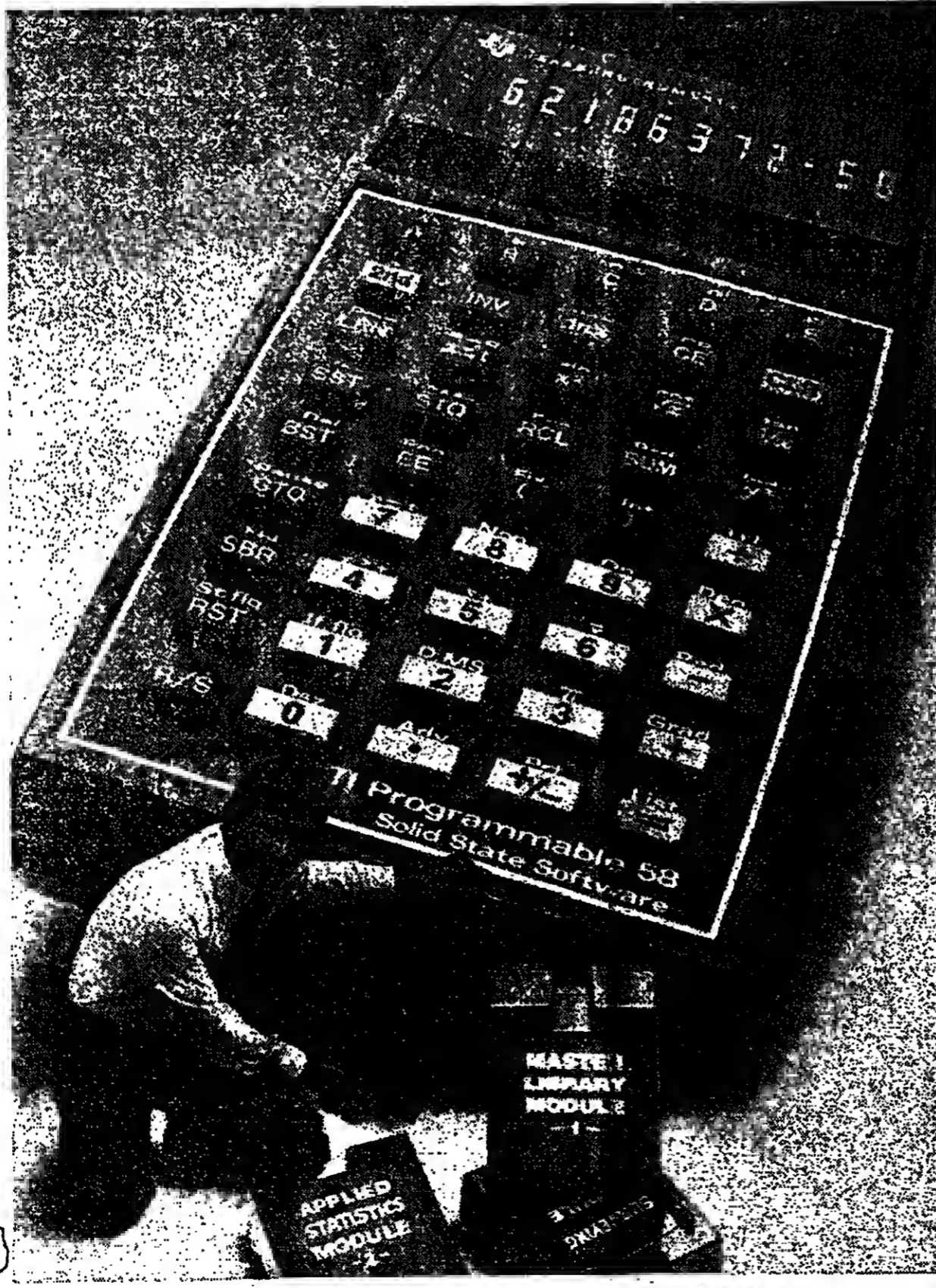
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# Have you ever wondered why work is such a dirty word?

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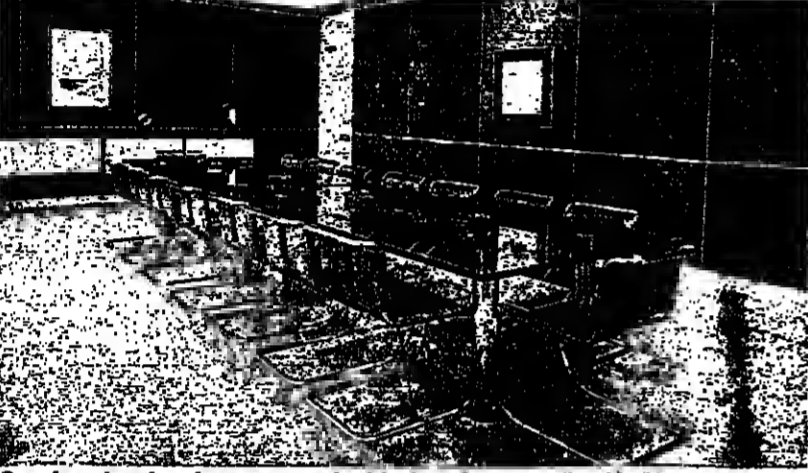
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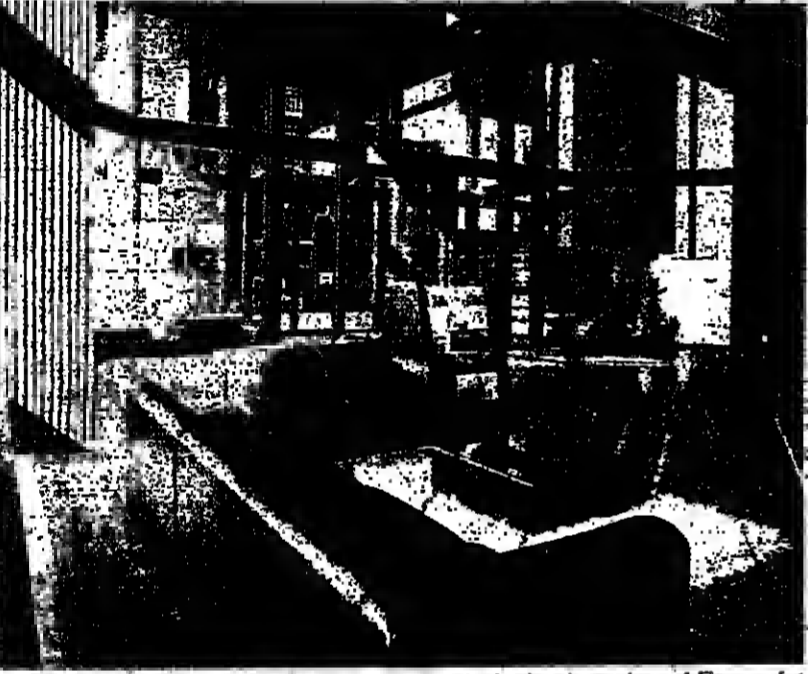
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The Hille Group of Companies.



One of a series of conference rooms furnished by Form International for Merchant Bankers in the City. Illustrated are the MR chairs designed by Mies van der Rohe whose furniture is exclusively made in the U.K. by Form.



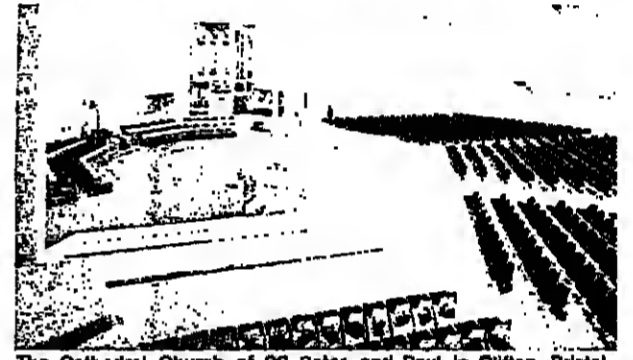
Reception area furnished with Hille Dolce Seating at the headquarters of Finance for Industry of London's South Bank.



Open plan office areas furnished with Hille Office Systems at the new Truman Limited administration building in Spitalfields. The Hille Design Unit were responsible for office planning and layout in conjunction with Arup Associates, architects for the entire project which has just won the Business and Industry Award for the Environment.



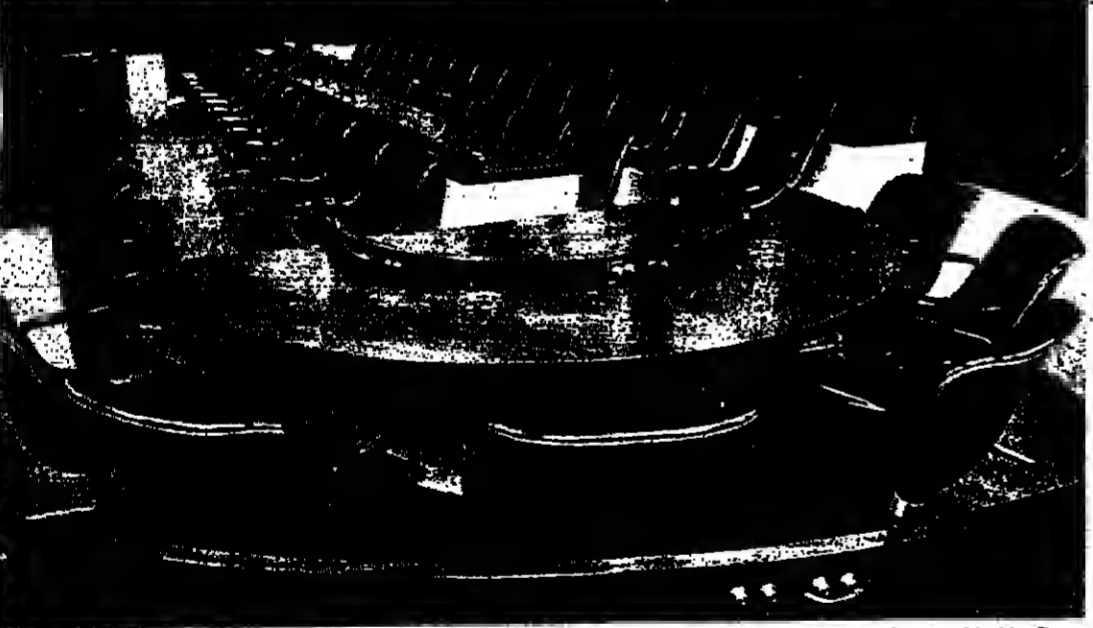
Cafeteria at the offices of Coca Cola in Zurich furnished with the Saarinen range, available from Form International in the U.K.



The Cathedral Church of SS Peter and Paul in Clifton, Bristol. Congregational and altar seating was provided by Hille. Special fittings were designed to hold missals and hassocks.



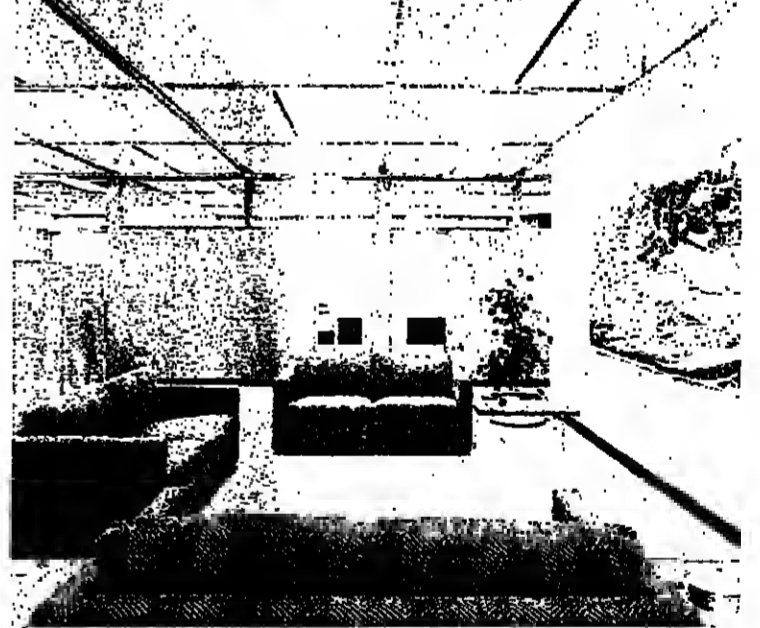
Hille has long-standing licensing links throughout South America for HOS and other products. Illustrated is an HOS installation in Sao Paulo, Brazil.



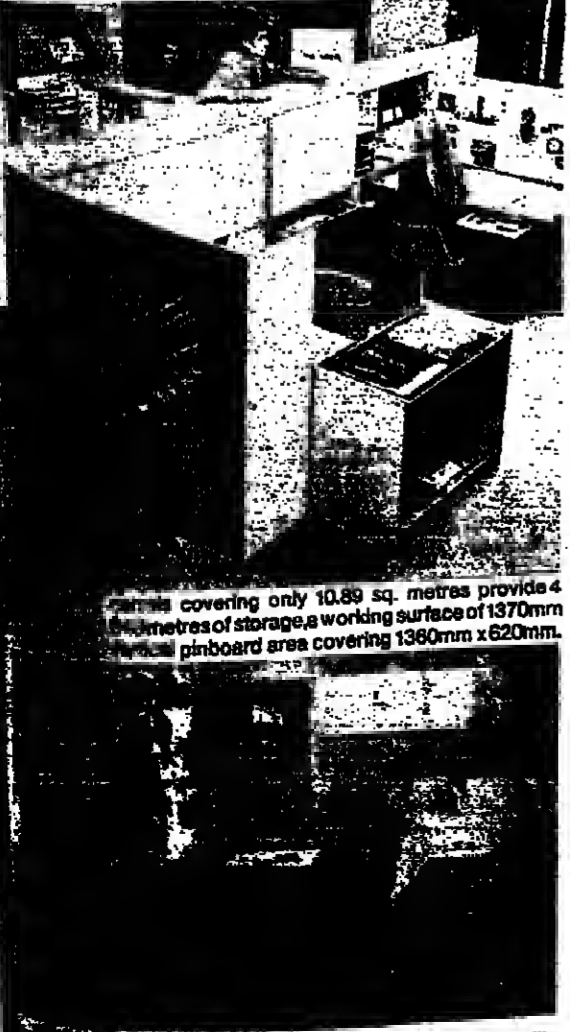
Conference Chamber at the International Sugar Organisation in the Haymarket. Specially fitted seating provided by Form International. Interior Design - Stefan Buzas and Alan Irvine.



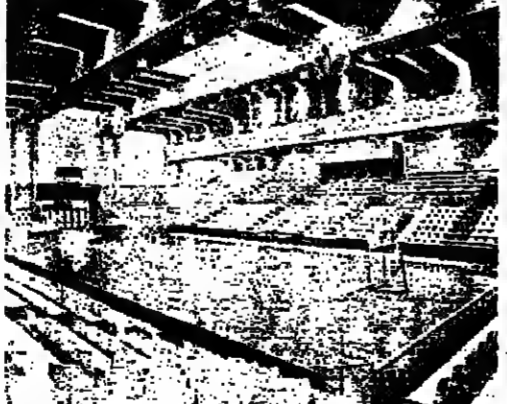
International headquarters of the Dr. Pepper Company in Dallas, Texas, furnished with the Stephens Office System, as manufactured in the U.K. by Form International.



Directors' suite at the headquarters of IBM United Kingdom Limited, Portsmouth. Individual offices and the open plan secretarial area are furnished with the Stephens Office System. The adjacent reception area has Pfister Seating.



Units covering only 10.89 sq. metres provide 4 metres of storage, a working surface of 1370mm and a pinboard area covering 1360mm x 620mm.



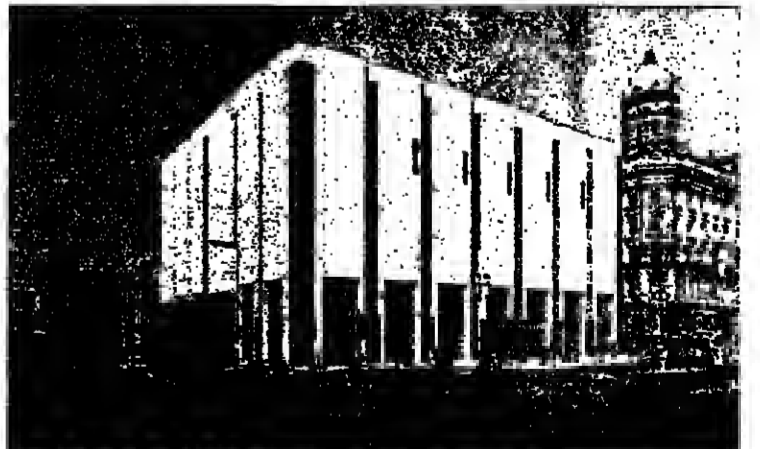
Basketball Stadium, Vicenza, Italy, fitted with the award winning Hille Polypropylene Chair Programme. Sales of the chairs now exceed 8,000,000.



Screen hung administrative work space designed for the World Trade Centre in Hong Kong. An outstanding export contract for HOS completed in 1976 and worth more than £300,000.



Mexico Olympic Stadium built for the 1968 Games. Hille won the contract to supply 38,000 seats in the main stadium. Hille specialize in mass seating indoor and outdoor projects around the world.



The Northern Bank Belfast. Furnished throughout with the Stephens system. Architects and Interior Designers, Building Design Partnership.



Bass Cherrington Limited's new office building in Burton upon Trent, furnished throughout with Hille Office Systems and Hille seating. The building has recently won a Civic design award.

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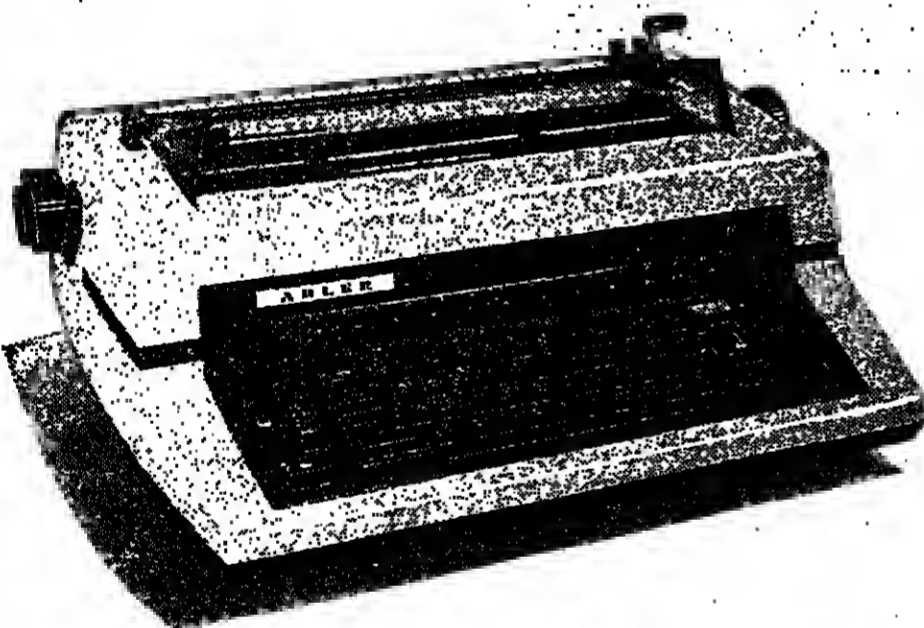
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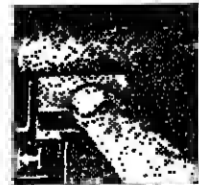
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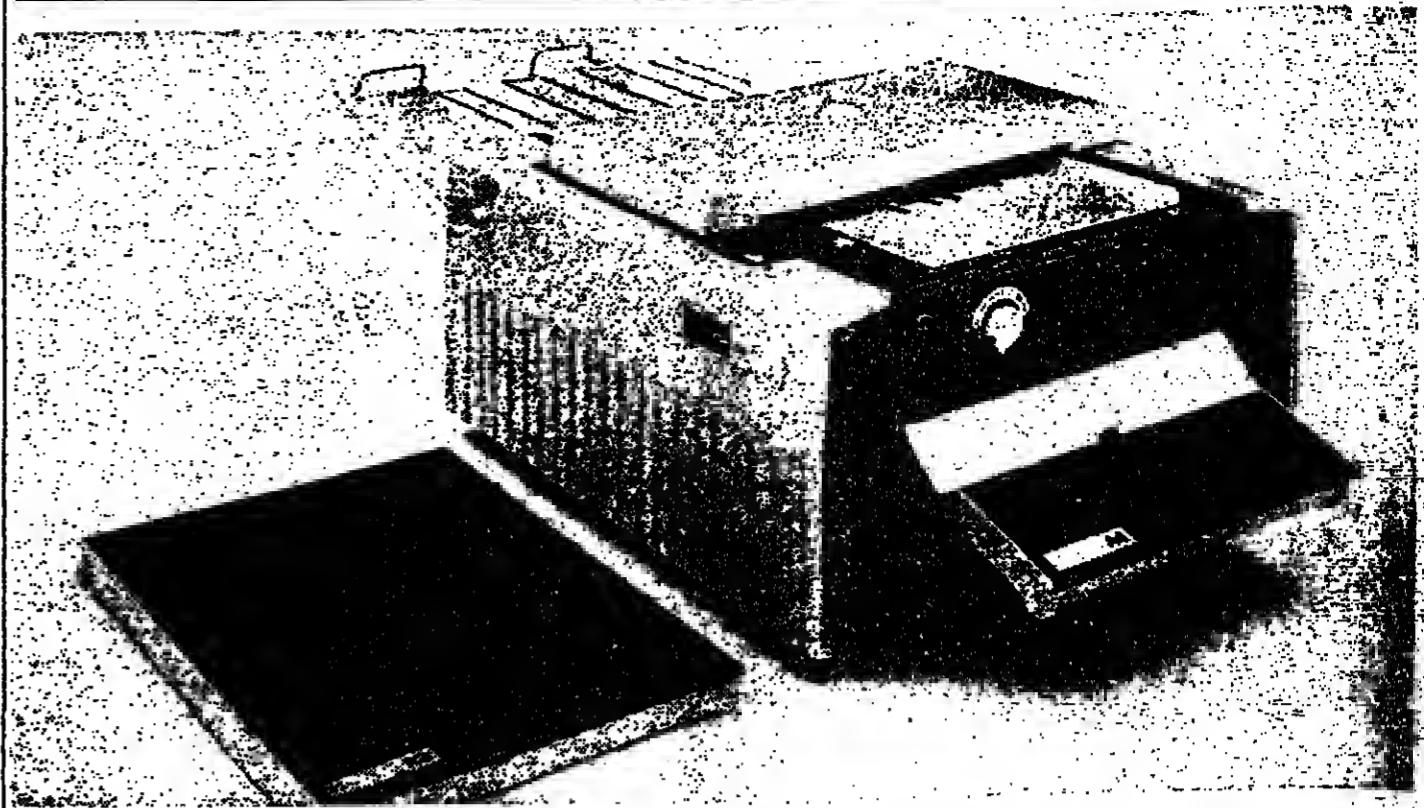
Please send me full information on the Adler SE1000.

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**ADLER1000**

Adler 1000

## OFFICE EQUIPMENT VIII



The Oce 1225 direct electrostatic copier.

# Copiers thrive on competition

ONE OF THE odd things about the copier market is that the consumer appears to have benefited both from the monopoly of Xerox and Rank Xerox in the 1960s and from the subsequently fierce competition. Xerox's worldwide monopoly, protected by patents for nearly two decades, allowed the company to develop a market which few people envisaged would grow at such a spectacular pace. Relatively high prices allowed Xerox to build up an impressive service network and to finance a huge research and development programme to produce the second and now even a third generation of machines. Undoubtedly the high quality of modern copiers has depended partly on this research effort.

Then, at the end of the 1960s, when customers were beginning to be restless at what many considered to be over-high prices, competitors started to move in aggressively with machines which were, in some cases much cheaper, and in some applications offered superior facilities.

### Challenge

Perhaps the most spectacular challenge came from Japan where Mitsubishi and Ricoh successfully attacked the lower end of the market with low-priced machines for sale rather than rental. They compared favourably in quality with anything offered by their giant competitor.

Japanese machines marketed by Kalle and Nashua in the U.K. have been joined by good quality machines designed and marketed by other office equipment companies who realised that they must swim with the tide of convenience copying or risk being overwhelmed.

Five years ago there were only five models of plain paper copier on the market in competition with those of Rank Xerox. Three years ago, there were 16, and now there are more than 30. Some of the newcomers, like the equipment made by Oce van der Grinten, the Dutch company which recently took over Osalid, and a new machine from Gestetner, make very high quality copies. As a result of the competition, Rank Xerox's share of new placements has fallen from about 90 per cent. to about 20 per cent. However, since competition has approached from the smaller end of the market, Rank Xerox's share of new revenues is probably more like 80 to 70 per cent.

One of the main questions for the future, therefore, is whether the competition can make a significant inroad into Rank Xerox's still dominant position in the field of large high volume copiers and the copier-duplicator.

So far, there has been no significant challenge from the Japanese to the machines capable of more than 15,000 copies a month. The Ricoh machines, for example, are thought to be averaging about 6,000 copies a month in the U.K. although they are capable of considerably greater output.

By comparison, the Rank Xerox copier-duplicator the 9200, can achieve 100,000 copies a month, and brings in correspondingly greater revenue.

In the copier-duplicator market for machines capable of 30,000 to 50,000 copies a month the main fight appears likely to be between Rank Xerox's 3800 and 7000 families and the IBM copier 3, with the East-

man Kodak Ectaprint 100 entering the market possibly towards the end of next year.

So far, IBM's progress has been steady rather than spectacular. Prices in the U.K. have been somewhat higher than Rank Xerox's, and the company appears to have been

The copier-duplicator market is also being attacked simultaneously by technical developments of rival systems. Gestetner, for example, now has a system by which facsimile stencils can be made of original documents. A large number of exact copies can then be run off cheaply on a conventional duplicator without the need for a typist to cut stencils.

For longer runs and higher quality, Gestetner and Oce can both offer a combination of copier and offset litho printer. The copier can make a plate which is used to run off almost unlimited copies on the litho machine.

This system offers a real challenge to the 9200, through high quality and relative cheapness. On the other hand, the Xerox system offers greater convenience and it does not require a skilled operator as an offset machine does.

Stockbrokers Scott Goff and Hancock, who are currently preparing their next report on Rank Xerox and the Office Equipment market, estimate that so far, 3,000 of the "9,200" machines have been placed.

This is a slower rate of penetration than Rank Xerox originally hoped for, but on the other hand, Scott, Goff say that there is strong evidence that users are well satisfied with the system.

The main question now is whether rivals to Rank Xerox and IBM can bear the very high development costs required for an attack on the top end of the market. It is thought, for example, that the Ricoh machine, which uses a liquid toner, could not be developed



The Gestetner X-10 Plain Paper Copier.

to achieve the very high speeds up by Rank Xerox. Much of the current development work appears to be concentrated on the smaller machines where it is believed a system called a photo receptor belt could eventually reduce prices by as much as half.

These new machines are expected to have a significant impact for the next two years, so, but when they do an explicit new turbulence can be expected in this already swift moving market.

At the higher end of the market, they would find it very hard to compete with the efficient service network built

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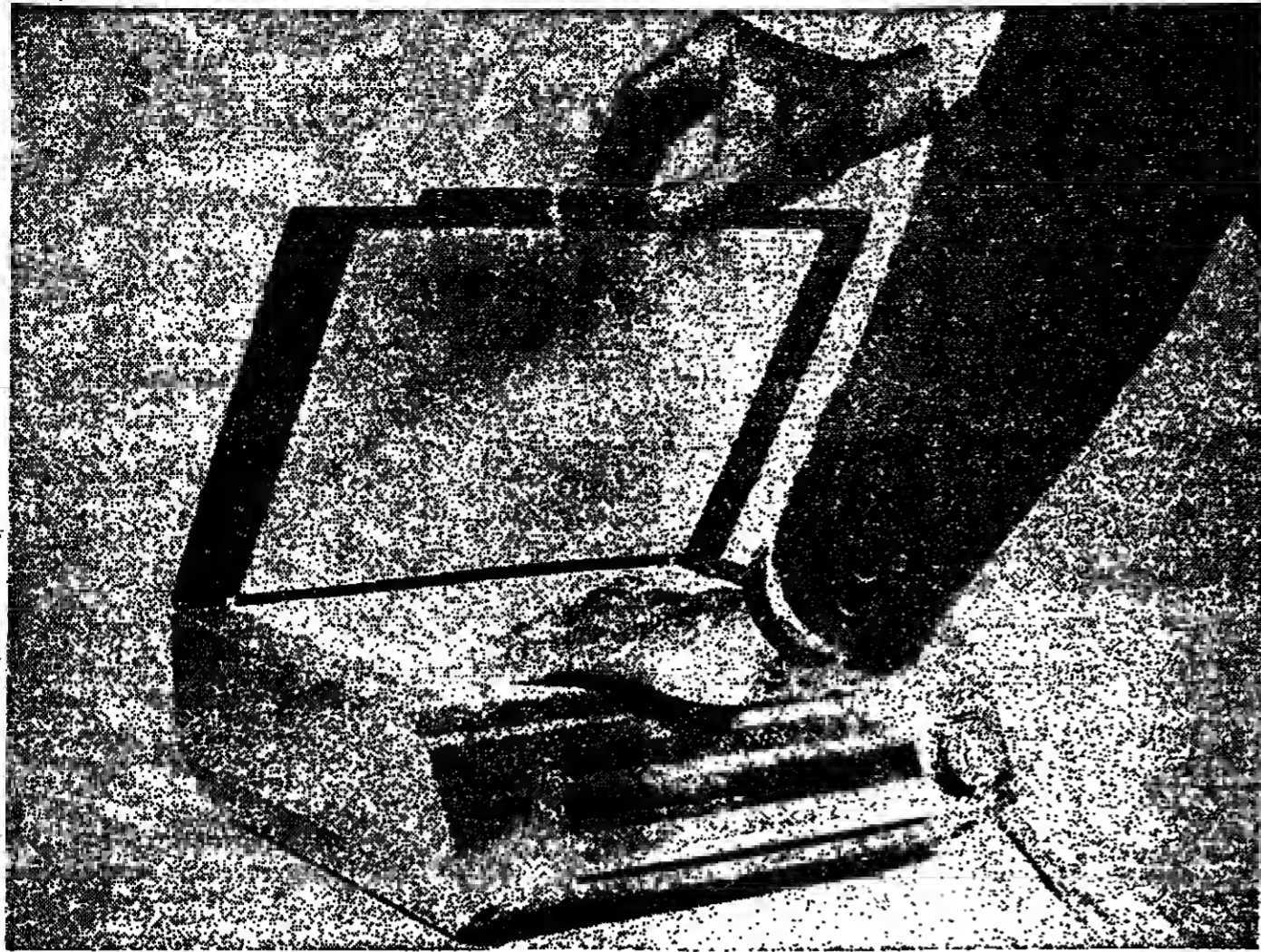
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I'LL DRINK TO THAT.

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# OFFICE EQUIPMENT IX



The 3M Scotch copier.

## Colour copiers about to appear

THE LAST few years have seen rapid innovation in the copier market, as more and more firms desert the carbon copy for the duplicated copy on short runs and then seek improved quality of copy. At the higher quality end of the market, there are a number of machines whose speed and reproduction quality challenges the offset litho machines. More dramatically, perhaps, the first colour copier is on the verge of being marketed.

First, colour. The breakthrough into colour has been made by Rank Xerox, which still dominates the European copying market. Two-and-a-half-years ago, Rank Xerox selected a number of diverse companies, and leased them the Xerox 6500 on an extended trial basis.

Among the companies selected were Shell, Unilever and the British Steel Corporation, together with large advertising agencies and design workshops. Both customers, and Rank appear well pleased with the results of the trial.

The Xerox 6500 has four colour-selector buttons — full colour, yellow, magenta and cyan (light blue). Full colour, obviously, will reproduce a colour likeness of the original. The individual colours are selected if, as is often the case, the operator wants a number of copies of a document with the type in blue, or red. The buttons can also be pressed in combinations to give an effective choice of seven colours.

The machine has the advantage of using plain bond paper, and can reproduce from the opaque, translucent or transparent originals with no minimum limit on their size, stantly locked when not in use. It has the disadvantage of being relatively slow, compared with the black and white machines. You have to wait over half a minute for the first



An Oyez 2000 plain paper copier in use at Bartlett's Bookmakers in Tipton, Staffs.

copy of a full-colour run, and 20 seconds for a one-colour run.

There are also problems about the very efficiency of the machine. Its reproduction is accurate enough to make a reproducible hanknote appear genuine on casual handling. In an attempt to pre-empt the office forger, Rank Xerox insists parent originals with no minimum limit on their size, stantly locked when not in use. It has the disadvantage of being relatively slow, compared with the black and white machines. You have to wait over half a minute for the first

idea of the potential size of the

of success, and their usefulness to the office, it is necessary to consider briefly the arguments and assumptions employed by the manufacturers and distributors of copiers, which in turn determine their market strategy.

Perhaps the dominant philosophy in the office and business equipment trade in the 1970s is that of the integrated office: where office machines surround the office workers, and where the functions of filing, storing, copying and transmission of messages within the organisation and to other organisations outside are gathered together within arm's length of a secretary. Much of the research and innovation currently being carried out by the large office equipment organisations—IBM, Rank Xerox, Gestetner, Olympia, Olivetti—are proceeding with this rough model in mind.

Some companies—as Olympia, Nashua and 3M—almost wholly confine their output to desk-top copiers, stressing the appropriateness of such machines to modern bureaucracies.

The large machines manifestly do not fit into this perspective. They are too big, and often too expensive, to proliferate in any but the most grandiose of organisations. They are thus unlikely to be sold or rented in very large numbers, and often are used by companies who have a printing plant within their organisation, in supplement or replace an offset litho machine.

Nevertheless, their speed and convenience—especially their ability to copy any written or typed document from the original—seem likely to ensure them a market.

The major competitors in this field at present are the Rank Xerox 8200, the IBM Copier III and the Kodak Ektaprint 100 and 150 range. Of these, the Kodak machines are not yet available in the U.K.; the placements in America are still completing trials.

The features these machines offer are their ability to do long runs—they are designed for users who want 30,000 plus copies a month. They offer automatic document handling and sorting, and some offer a reduction process whereby an extra large document can be shrunk to the plain size before being reproduced.

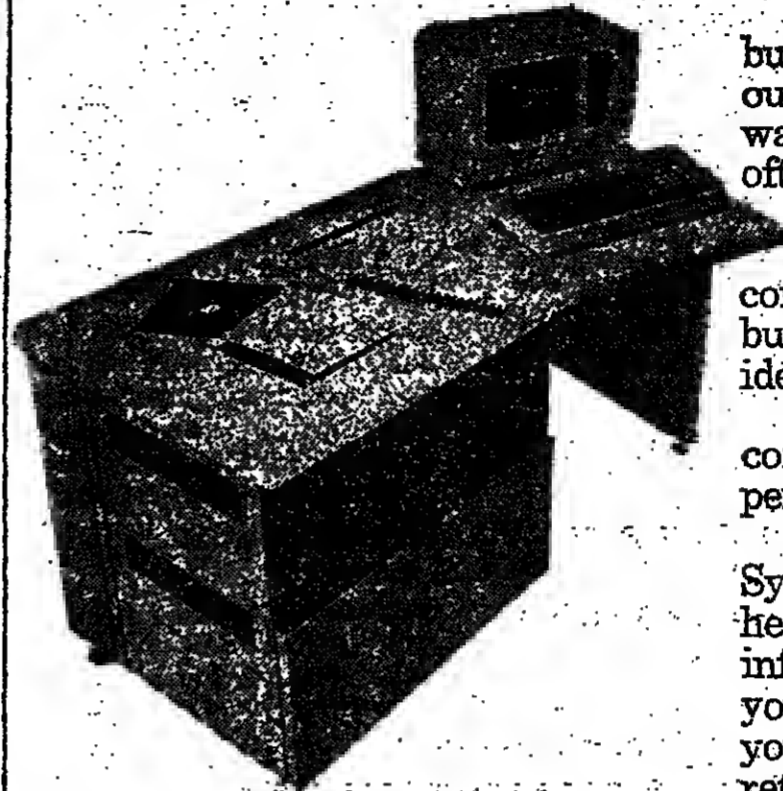
Figures on how many of these machines are now in use are in theory impossible to obtain because of the conventions of secrecy which surround the business.

It is too early to say how the Kodak 1000 150s will fare once they are released in the U.K.; they will be late on the market, though the 150 does offer some unique features. A recent survey reckoned that Kodak could not hope to compete seriously in the European market until the early 1980s. Rank Xerox should, the survey claimed—retain its dominant position, though the willingness of IBM to sustain short-run trading losses may mean its eventually increasing its market share.

In copiers, as elsewhere in the office equipment business, the competition is exceptionally fierce.

J.L.

# How long can your business manage without them?



business, the real needs of staff out in your sales offices, warehouses and factories are often not fully met.

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And the staff who use them won't require special training.

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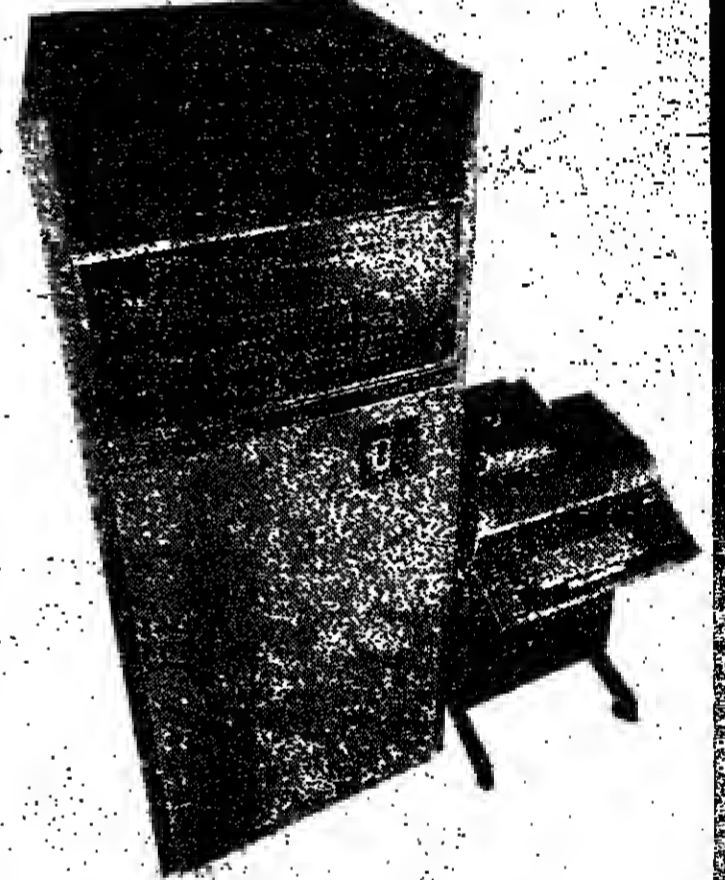
Not just general information about sales, revenue, profits or investments, but the detailed accurate facts that are used every day by people at all levels of any organisation.

Information about customers, orders, deliveries, stock levels, payments, prices, policy claims, employees — the list is endless.

Computers, of course, can help by storing information. But they are not always very good at making it readily available to those who need to use it.

They also process information, but their processing power is not often easily accessible outside the computer room.

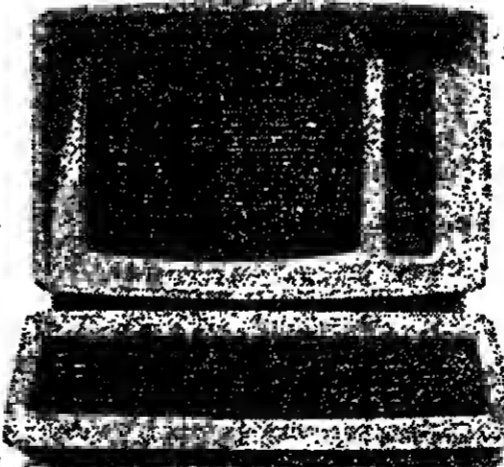
So, although a central data processing operation may be necessary to help run your total



We believe that the potential of such machines is so great that pretty soon they will be as essential as the telephone to most businesses.

In the meantime, those companies which are already customers of ITT Business Systems are gaining some unique advantages in terms of cost effectiveness and efficiency.

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- If appropriate from the above analysis, the second stage of the service provides the following:—
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OFFICE EQUIPMENT X

# Wide variety of peripherals

BECAUSE OF the advent of the microprocessors which add intelligence of a sort to the equipment into which it is connected, the definition of a peripheral unit—that is peripheral to a computer—is becoming very difficult.

It is now possible to buy what looks like a TV screen with a typewriter keyboard and, plugging it into a 15 amp power point, find that one has a personal desk-top computer able to handle much of the work that ten years ago would have had to be undertaken by a big machine. In this category belong the "Pet" personal computer presented a few months ago, the Jacquard Video-Computer supported by Computer Ancillaries (CAI) and probably IBM's (just) portable computer.

Even further down the scale are the calculator-like stock data capture units which are designed to record goods depletion in large stores and warehouses. They would not normally have a microprocessor though a recent model backed by Unilever's computer services is driven by one—and are equipped to release their accumulated data over telephone lines via an acoustic coupler to a central stock control and order preparation computer.

Possibly the best way of describing types of peripherals that could be encountered day by day in offices is to consider the kind of services it is possible to configure up through them.

## Building

For instance, in the offices of large building groups, civil engineers or architects, it would not be surprising to find a display and keyboard, or a plotter and a communications printer which can be linked over Post Office lines to one of a number of centres which provide computer assisted design support. Set-up in Cambridge some ten years ago with the Ministry of Technology backing, the Computer Assisted Design Centre has spent a large amount of money on



The IBM Office System 6 provides word processing and information processing capability.

developing standard programs which a group of hackers has been manipulating with some outline ideas for a bridge structure or a major road junction and have a large computer at Cambridge—or at NEL in East Kilbride—or at SLA in London—define the design in three dimensions and manipulate it to fit in with the constraints transmitted by the engineer or the architect at the same time.

Terminals also can be used to gain access to a whole host of mathematical and economics routines worked out by computer companies and service bureaux to enable companies to do corporate modelling and then put in questions such as "if we decide to do this in present economic circumstances what can we expect to happen to the company." The instance is running the Treasury model of the British economy

intersect at a point corresponding to the one illuminated by the measuring laser at that moment. It follows that as the latter describes the contour of the object, so the intersecting slave beams must follow suit.

The ingenuity of the reproducing device lies in the fact that to make a permanent record of the measured shape it uses otherwise transparent material which is affected chemically only where two laser beams of differing colours intersect.

## Device

The measuring device could be in an engineering centre in London and the reproduction unit in Canada; the computed information being transmitted over cable or satellite links.

Again, can one call IBM's Office System 6 a "peripheral" covering as it does a number of units between magnetic card typewriters and the small computer? They can be combined to form office work stations with ability to turn out high quality documents from reports to contracts, taking out letters as a matter of course. But such work stations can report statistics and other data to computers and take instructions from them, and do the same with communicating typewriters at some distant point. To that extent even the complex systems that can be built up from IBM's OS-6 equipments—which include one of the most accurate ink jet printers ever designed—are peripherals.

It predicts that the European peripherals/minals market will reach around \$400 million or 70 per cent of the total value of computer sales by then, prove to be correct then there will hardly be an office in any major city without one type of peripheral or another. And this does not take into account the possibilities of Teletex or Videotex, whose actual TV message units, to be considered as peripherals of the data bank controllers operated by the Post Office.

Ted Schoeters

# Computers for the smaller office

IN TEN years' time it is very likely that most of the functions of medium to large-scale computers now used in the control and running of businesses from a central point will be taken over by small computing installations set up in offices at key points, such as factories and depots, and operating on events as they happen.

They will communicate the daily, hourly or instant results of their work as the case requires to a head office computer. In many instances they will have the ability to take over the tasks of another machine in the network in the case of failure, so that at no time will the users be totally bereft of computer power, as can happen now if a large central installation is affected by cable damage or sabotage.

One of the reasons for the rapid growth in the use of small local machines is the reduction of management control over centralised data-processing systems as these have become more comprehensive and—possibly—this return to greater simplicity is a management reaction to the

dangers of an organisation becoming totally computer-dependent where there is a single octopus-like system running everything.

Yet this equipment is based on three to four year old technology. So it is hardly surprising to read predictions that when the micro-computer begins to be used for processing activities now carried out in central computer areas will return to the offices where the process data originated.

It will not be essential to retain a large central data base. Memory technology is advancing so fast that every office in a large organisation could ultimately have a "memory cell" containing constantly updated information concerning its work.

But central supervision of local data bases will be required as will decisions on levels of confidentiality. In the meantime it is already possible to get for not much more than £1,000 a micro-processor-based unit that will provide invoicing or stock control as required and for, say, £8,000 a fully capable ledger control unit.

Manufacturers of general purpose machines will be quick to point out that they can meet specialist services such as the

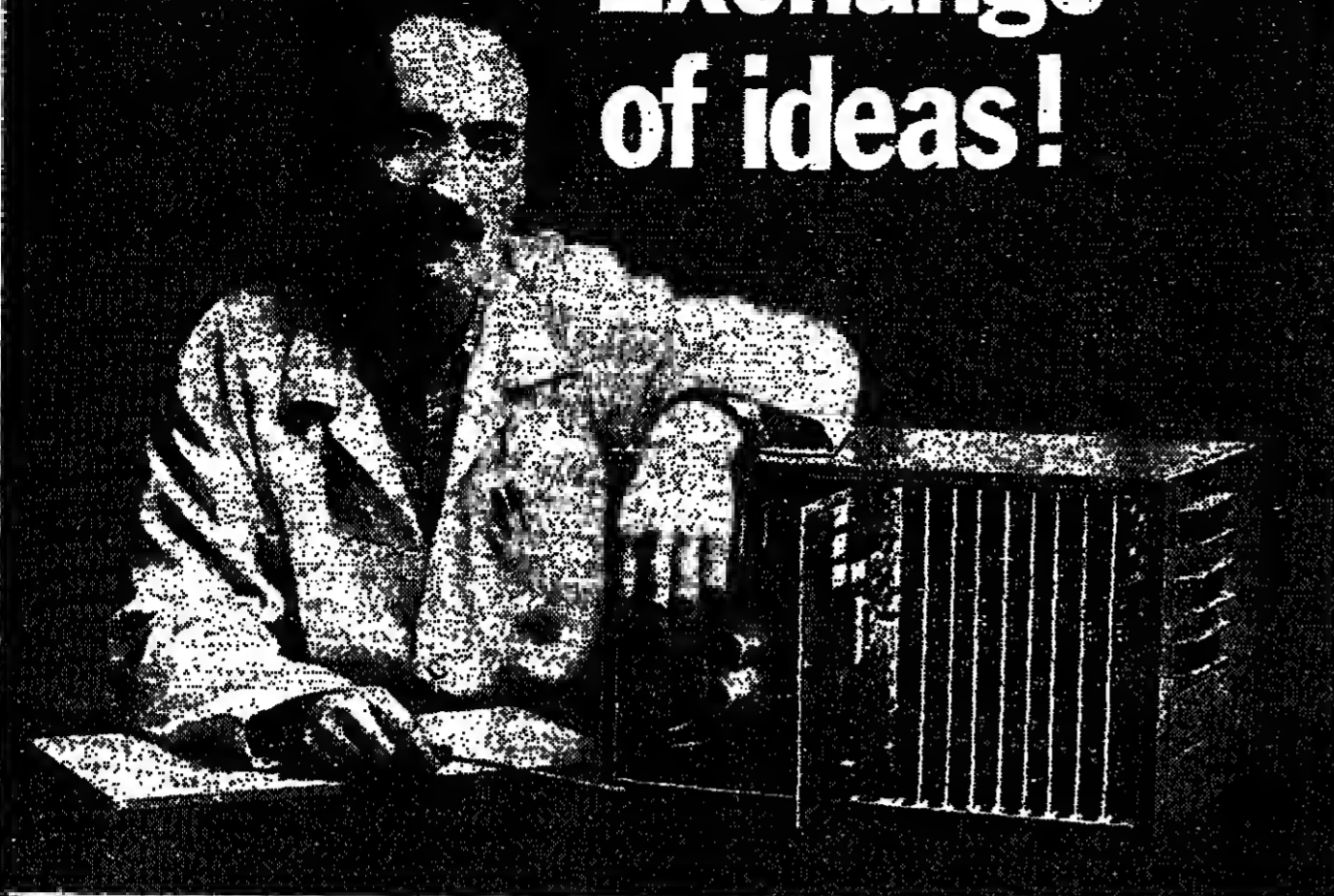
transport fleet. If staff fall ill, a computer can evaluate the effects that will have on the general running of the business. If you're going to expand your business in any way, computers will inevitably be a part of that increased growth, in the next decade.

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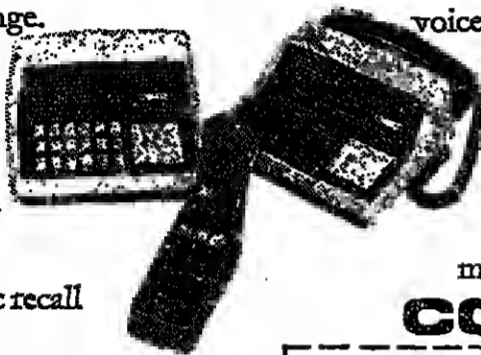
## contacta

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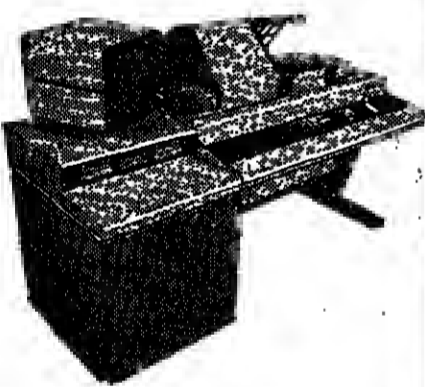
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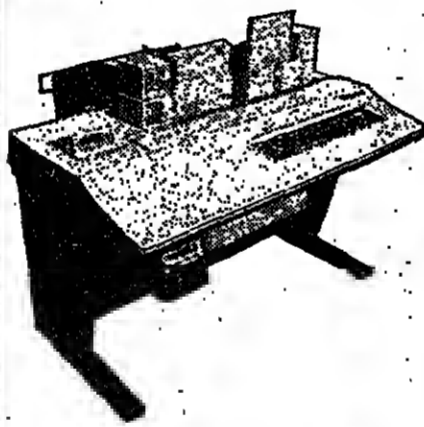
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Handwritten note: 5/10/77

# British exporters lag behind

WITH OVERALL exports of office equipment amounting to around £670m. last year compared with slightly under \$900m. in 1975, the British industry is apparently making use of the period of domestic recession to look for sales abroad, but it is clear that in some sectors it is lagging behind foreign competitors.

In addition these figures, when seen in terms of inflation, do not reflect the export growth rate which could perhaps have been attained. For that and other reasons both Government and industry are now looking into the problems.

The British industry is highly involved in world markets and its product range bears comparison with any other except the U.S. and Japan. Although there are prospects for a continuing strong increase in world demand for office machines, confidence about the home market is less buoyant.

According to a sectoral working party study carried out under the National Economic Development Council, it is felt that the U.K. office machinery manufacturing industry is now facing crucial choices in some sectors if it is to survive at a level other than that of a provider of products at the low technology end of the market, or of an assembler of machinery with higher import content and a low U.K. value added element.

According to the working party report, published late last year, the part of the industry involved in the manufacture of traditional electro-mechanical products has maintained a good market position.

## Reasons

But in the fast growing electronic product areas the U.K.-owned companies have lagged behind foreign competition. The reasons for this are probably the high cost of rationalisation in electronic products and the recent economic environment in Britain, which has not been conducive to small, highly

multinationals which are abreast of the technology have indicated that they are unable to depend on the U.K. electronics infrastructure.

To compound the problem, where link-ups between manufacturers of traditional products and "electronics know-how" companies may be most advantageous there is often no British owned electronics company of any significant size which can fulfil such a role.

## Objectives

It is further suggested that on present trends the ability of the U.K. office machinery manufacturing industry to meet any sectoral objectives that can be put forward will rest to a considerable degree in the hand of the foreign-owned multinational companies already operating here. They, in turn, have indicated that any further investment in Britain will depend on improvement in productivity.

Looking at export potential by sector, the picture is no more encouraging. Although the reputation of U.K. stencil duplicators remains high, this is a fairly static market, and although export growth may be above world market growth, it will be relatively slow. A similar outlook is seen for offset litho machines.

Typewriters, now produced in Britain solely by foreign multinationals, could achieve sufficient growth in exports to attain double the average rate of growth assumed in the objective, but one impediment is the pace-of-development of the automatic typewriter and word processing markets. These are likely to be subject to explosive growth in the years to 1980, but the report warns that at present the British industry is ill equipped to benefit from it.

Although some British manufacturers of electronic calculators have managed to achieve a reputation for quality products and to compete effectively in

world and particularly Western European markets, it seems unlikely that more than a modest increase in exports in value terms will be achieved by 1980. Accounting machines, on the other hand, are seen as a product group which could make a significant contribution to the all-industry objective. Similarly the SWP felt that in the years to 1980 there will be a good market opportunity for expanded British manufacture of basic electric cash registers since a large market demand is currently being met by imported products, particularly from Japan.

Exports of document copying equipment exceeded imports in both 1974 and 1975, and based on estimates of a possible increased worldwide demand for copiers of around 35-50 per cent. by 1980, it is likely that U.K.-based companies can make a good contribution to the export effort.

Overall, it is suggested that the industry should seek to reduce the level of import penetration to around 85 per cent., its level in the late 1960s. Assuming a 20 per cent. increase in the U.K. consumption by 1980, this objective would require increased production of about £18m. at 1975 prices (£9m. for import substitution and £9m. for growth).

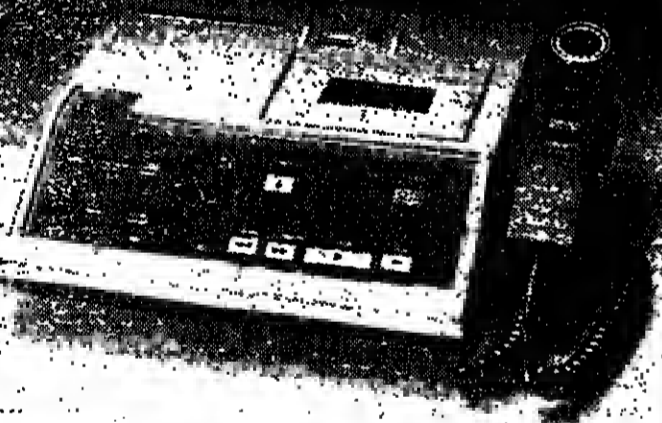
The attainment of both the import reduction and increased export objectives would, if total home market demand were to rise by 20 per cent. by 1980, require an extra £100m. a year production in the terminal year at 1975 prices. This in effect means that production would need to rise to £260m. at 1975 prices, a 50 per cent. increase.

This outline for the industry, although apparently difficult in terms of its goals, is likely to become, with modifications, part of the Government's overall industrial strategy which will be outlined in the near future when all the sectoral working parties have reported.

Lorne Barling

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## Smaller office

CONTINUED FROM PREVIOUS PAGE

Microsoft centre set up by Computer Analysts and Programmers (CAP), to allow any business intending to use micro-based equipment for business applications to work out all the routines it will have to do beforehand.

It is also prompting makers of micro, Zilog for instance, to develop working kits of parts that will allow users to design their own routines and try them out till they operate perfectly.

The head of the CAP organisation in Britain, Alex d'Agapeyeff, is, in fact, going so far as to say that micros are already overtaking the main business data applications and that it is virtually impossible to make near price classifications any more. One of the main reasons he adduces is that micros are proving easier to operate with widely employed computer languages than several of the minis, largely because of the availability of solid-state memory which appears tailor-made for micro operations.

d'Agapeyeff, who is not given to forecasting unless he is pretty sure of the base, predicts that most of the micro makers will be launching their own small business systems within the not-too-distant future and at prices which will make the minicomputer builders shudder, let alone the builders of general purpose machines.

In the meantime, however, the battle between the emergent minis and the larger business machines continues. And the minis are winning, with shipments growing faster than for any other sector of the computer market. Unable to beat them the traditionalist large machine makers are joining and every one except, perhaps, ICL has brought out a mini/very small business system of its own.

It is hard to discern where all these developments are leading. One point seems clear however. If computer power, particularly as used by the big service organisations, returns to the local offices, the perpetuation of infuriating mistakes should become impossible. Most people have their pet "blame the computer" stories many of which are unfortunately true. If invoicing for services rendered takes place locally, mistakes are far more quickly pinpointed and personal intervention is much more likely to have a lasting effect than if the offending computer centre is miles away.

One effect of the small, comprehensive machine could thus well be a return to far greater sense of responsibility.

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TICK AS APPROPRIATE

OFFICE EQUIPMENT XII

Survival of the large computer

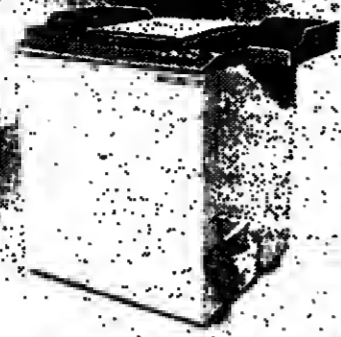
LOOKING AT the present rapid changes in technology, and reading the many predictions that large computers are on the way out, office managers...

The latest available statistics show no let-up in deliveries of mini-computers in the national price range of say £2,000 to £20,000. From a delivery basis of \$2bn. by U.S. manufacturers in 1976...

At the same time, the competence of the computing centre term will increase by leaps and bounds because of the new operational modes the equipment will be called on to support.

So, after a period of intensive centralisation and some restructuring of information flow, the movement is in the opposite direction towards distributed machines with costs below £150,000 as bearing the brunt of the attack...

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CONTINUED ON NEXT PAGE

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## OFFICE EQUIPMENT XIII



The Olivetti TCS00, which is used for depot invoicing and stock control at Drakes Sweets Marketing, Cambridge.

# Choosing a computer

IT IS important, when buying a computer system for the first time, to realise that probably more than half of what is being purchased is invisible.

Moreover the boxes of electronics and ancillary equipment like printers, magnetic tape or disc memory stores and visual display units (television screens) may be a good deal less important in the long run than the intangible system which dictates how they will all operate.

It is true that the hardware, as the electronics is called, must have the capacity to cope with the demands which will be made upon it. Several companies have come badly unstuck because they have bought equipment which turned out to be too slow for their actual needs. As a result, a backlog of orders or stock control data has built up. In some cases log jams in the hardware have cost companies a lot of money, because they have found it was no longer possible to revert to the old manual system, to sort out the mess.

However, the steady improvement in the capacity of peripheral equipment, combined with the falling cost and greater flexibility of central processors, are making errors of this kind less likely for a buyer who exercises reasonable caution.

### Match

The real difficulty is in developing a system which will accurately match the needs of the organisation. To some extent systems are linked with the selection of hardware, because the programs (or software), offered by different manufacturers dictate to some extent the capabilities of the machines.

The company which is intending to buy a computer for the first time, would, however, do better to start from the opposite end of the problem by considering the system that already exists in the office.

The introduction of computers can rarely be accomplished successfully without a radical review of operating methods. One of the reasons for this is that even where a computer system follows procedures

which were previously accomplished manually, it will do so in a highly formalised way.

Any imperfections in the system which could be accommodated by more flexible routines, may throw up cumulative difficulties if they are written into a computer program.

More fundamentally, the object of buying a computer must be to improve efficiency. This object will be negated if the computer is used to automate a thoroughly inefficient method of working.

The first-time buyer, and indeed any other buyer, needs to take a fundamental, even a philosophical, look at his organisation, how it works, how it should work, and what its development is likely to be. Even when buying a relatively small, packaged system, this kind of review will not come amiss. Indeed, most companies should be making a regular review of their operating procedures whether or not they are buying computers.

One common error is to believe that the analysis of the existing system can be handed over lock, stock and barrel to an outside consultant or systems analyst. An analyst may be able to help, but some of the issues and choices involved are likely to be fundamental to the management of the business.

After analysing the system, the next stage is to work out the requirements for the computer. For this job consultants may be brought in; but buyers should be aware that some consultants have informal or historical links with particular manufacturers.

An alternative is to go straight to one of the big companies like International Business Machines or International Computers. But clearly there is a danger that the big company will try to mould the small user's requirements to the machines and programmes available rather than the other way round.

One of the emerging features at the lower end of the market is the substantial difference in price between systems which

appear to be basically similar. In assessing the value, however, users need to consider very carefully the amount of after-sales support which will be available. This is not merely a question of how quickly a serviceman can arrive to replace a circuit board when the machine goes down.

Support with the software or programming may be much more crucial, especially in a complicated system where problems can appear some time after it has been set up and appears to be working perfectly. Early attention to this sort of detail and appreciation of the dangers inherent in any computer system may mean the difference between success and disaster. One of the problems which needs to be understood is that systems with the greatest advantages often carry the greatest risks and are the most difficult to change.

### Ledgers

For example a company may opt to scrap all its paper records of ledgers, financial information, stock and even correspondence by putting it into electronic language to be stored on tape or magnetic discs. The huge capacity and rapid, flexible access to data may bring great advantages. However, destruction of an important disc could in some cases bring the operation of a company to a halt. Almost all systems, therefore, must incorporate duplicate or "security" storage, so that master copies of important files can be kept in a strong room. However, this is one of the requirements which must be appreciated and planned from the start. For example, the machinery must have the capacity and speed to make security copies of files without interfering with the time allotted for the normal routines.

The other point is that once a system is operating, change to a rival system could be difficult and expensive. Since the two systems may not be compatible, even copying of the files could involve some quite

complicated programming. This merely underlines the need to get the choice of manufacturer right at the outset, bearing in mind the possibilities for future expansion and other variables.

For those embarking on the road to computerisation, there is a dearth of literature to help, partly because much of what is written about computers is

rendered unreadable by the maniacal use of jargon. One exception is "The First Computer Handbook" by M. J. L. Turner (from 10a, Chandos Street, London W.10., which gives a clear explanation of the main types of equipment now on the market as well as a step by step approach to purchasing.

M.W.

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## Market

CONTINUED FROM PREVIOUS PAGE

linked directly to facsimile transmission following an important, but not sufficiently well-known development by Muirhead, based on work for the military, which enables equipment to capture and reproduce A4 size copies in a second. This development has left Muirhead's rivals even in the U.S. far behind it. The key to the extension of such a service is, of course, what transmission charges are likely to be.

With such a wealth of equipment likely to be a commonplace many City offices over the next decade or so it is only natural to pose the question of who will prepare the filled staff able to handle sensitive equipment without major problems?

While several computer users have approached the question by designing keyboards that are totally appropriate to a limited range of tasks and virtually do not allow operators to make mistakes, it does not like the implications behind this method in that it could destroy initiative completely and with it any real rest in the job.

One of the great deat of successful computer education work has been done by associates of the Brandon group using video audio taped instruction

used with linked manuals. There is a need for similar training packages for the office, particularly in view of the proliferation of terminals of all kinds in the wake of the current communications explosion.

And it is worthwhile recording that the handicapped will not be excluded from this progress, thanks to ideas which originated at National Physical Laboratory. There, micro-computer based video/audio equipment has been developed by a team under Dick Penn who believes it can be tailored to meet practically any handicap.

For paraplegics, a puff-suction mouthpiece can be used to give coded instructions to the computer-controller to select characters and form commands just as an ordinary keyboard would do. For the blind or partially sighted, a talking arithmetic program is available and it is possible to use the power of the equipment in compose music.

Ceefax, Oracle and eventually Viewdata facilities will be available and while the work has been in progress for only 18 months it could lead to the production of a series of interactive training methods and possible equipment to use most advanced based audio-visual systems is the name given to the project

which could do wonders to give a fuller life and a greater degree of independence to the less fortunate. Intelligence is not the prerogative of the hale and hearty and it is essential, particularly for Britain, to make every use of available brain-power.

Apart from training new staff, there is the perennial problem of putting the message across to existing cadres, concerning new sales plans, new products, company progress and so on. In a fast-moving and highly competitive business effective internal communication in such areas is vital and not effectively met by sketchy flip-chart or overhead projector presentations. Many large companies go to the considerable expense of making "The World of X" colour films, frequently with unhappy results.

For any company which produces presentations of its aims and products a fact of life, it is worth taking advice from experts beforehand and examining work they have carried out for others. There is such a vast range of projectors, media, training methods and possible permutations that novices are unlikely to come up with the right answers.

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OFFICE EQUIPMENT XIV

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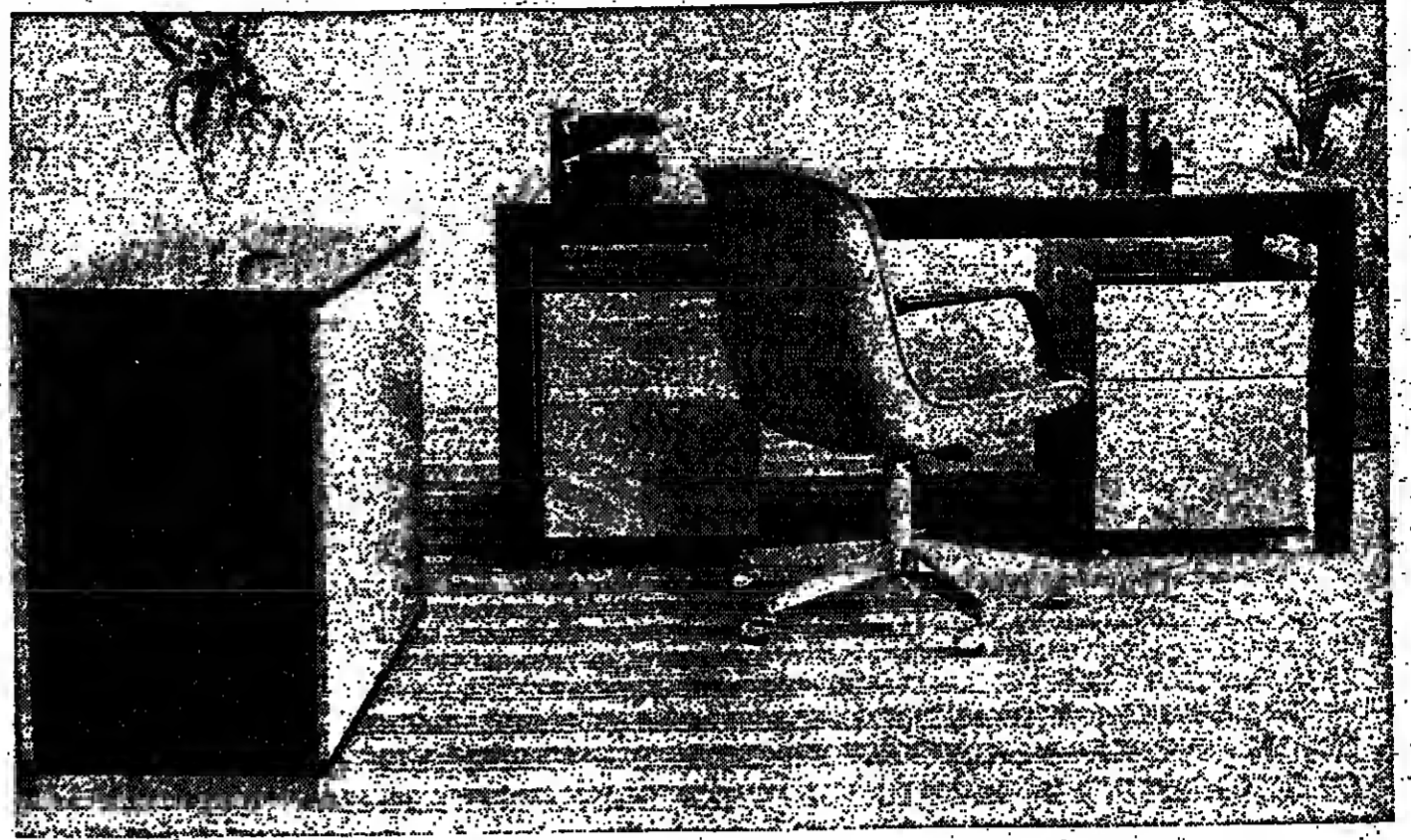
FEW INDUSTRIES provide such a barometer of business optimism as the office furniture manufacturers. And since business optimism is essential for revival, the quickening level of demand for new office equipment in the past nine months must be seen as encouraging for the U.K. economy.

Two years ago office furniture manufacturers were in a poor way. This had a certain lateral advantage in that it forced them to look ahead for sales and, in particular, to the Middle East. The oil rich Arab world has preferred British office furniture to its German, Swedish and American competition and has, in fact, underpinned the industry for the past couple of years. Now domestic demand has improved.

Not all domestic demand however: the small businessman furnishing his own, and perhaps a secretary's office, does not feel prosperous enough at the moment to acquire new desks, chairs, cabinets, etc. The growth stems from the bigger companies and from local authorities which are often moving into new office accommodation, perhaps out of London. So the suppliers are getting orders in the £5,000-£10,000 range rather than £1,000-£2,000 which was more common three to four years ago.

Just as encouraging as the appearance of more, and more substantial inquiries is the interest shown by consumers in new types of office furniture — the system technique. Behind it all is a concern with using very expensive space more effectively. One approach pioneered in the U.S. and linked to companies like Herman Miller and Carson, is basically a compromise between traditional walled offices and open plan. It consists of movable walls — because most people like to work within walls — which can be grouped to form a honeycomb effect. A development is to attach working areas to the walls, with an obvious saving in space.

An alternative system, more associated with Germany, is to group desks together according to the work patterns in the office. This gets away from walls and is more like open plan. Obviously the introduction of either of these systems requires the advice of a consultant — they are a "bespoke" rather than an "off-the-peg" solution to office problems — but Carson, which is active in this area, reckons that a third of the market now comes from systems furniture rather than the conventional desk and chair replacements. More systems are on the way: Ryman will be introducing a new concept in a few weeks time which is the result of combing the world for a fresh approach.



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This will enable companies to move into more basic and cheaper, new office blocks. Offices which come complete with ceiling lighting, floor wiring, and air-conditioning often cost up to a third more than the simpler, speculative premises. So sophisticated desks can be an answer to costly office rentals and rates, and sophisticated desks are likely to feature at the International Business Show this month.

Desks with all the trimmings and furniture built into systems to reflect the actual work patterns in offices are obviously far removed from the conventional desk and chair replacement market. The office furniture industry is dividing into two, with on the one hand consultants selling and offering almost a work study of the customer's office; and on the other the conventional retail or wholesale trade, which is currently the sluggish end of the business. But overall there is a feeling of movement.

### Ideas

Although most offices are a hotch-potch of designs, materials, and equipment, new ideas are making inroads. Filing cabinets, for example, are now seen as space-consuming and often impractical. They are ill-fitted to store computer print outs, cassettes, and the other products of the technological revolution, and the modern idea is to go for a shelving storage system rather than upright cabinets.

Chairs, too, have been the subject of much research. The

man-hours lost through back-aches (17.4m. days in 1975) caused often by badly designed chairs, would pay for the most modern office equipment many times over, and the advice of ergonomic consultants about this is now listened to in the more progressive companies.

An office chair can cost anything from under £20 to almost £100 for an imported model. But imports are limited in this area, and the main U.K. manufacturers and suppliers, Tan Sad, Evertaut, Fel, Roneo, Vickers, Carson and Ryman, are as well aware of ergonomics as the overseas competition. Comfort is still more important than design, or gimmicks, such as the so-called "gas lift," a German invention, which at the press of a button adjusts the height of the chair while the occupant remains seated. This costs an extra £10 a chair and British suppliers are sufficiently impressed to offer their own models. Another German innovation, chairs with five legs at the base, which is supposed to be an important safety factor, are also now available in this country.

The future in office furniture is likely to be a compromise. Small, individual offices, the cellular approach, will become rare as they are space consuming and interfere with communications; open plan is noisy

and not popular with staff. Office furniture suppliers will increasingly act as advisers on the mixture of extremes which is most useful for a particular client's needs. Although the U.K. has not pioneered new approaches, the main British suppliers can offer the best of continental, North American and domestic design and manufacture.

At the moment screens are still growing in popularity. Screens are not only useful for the display of charts and other paperwork, but shelves can be attached, and storage units added, so that the screen becomes the work station rather than the desk. Four drawer filing cabinets are being replaced by versatile storage units, either open or with doors, blinds and shutters, which can stock a wider range of materials.

The office furniture industry is set to become more independent on exports, and office mobility, which brings the big orders. For the customer the range of systems and models is likely to expand so that the traditional mixture of styles, such as a feature of British offices, seems destined to remain the norm.

Antony Thorncroft

## Vending sales improve

AS THE COST of providing amenities and services in offices continues to rise sharply, there is increasing interest in automatic devices such as food and drink dispensers which can eliminate the need for highly paid secretaries to waste their time on activities such as tea making.

The main problem with machines of this type has been the quality of the product, but efforts on the part of manufacturers and the equally important operators of this equipment have gone a long way to show that acceptable drinks, both hot and cold, and a variety of food can be provided in this way.

Figures from the Automatic Vending Association of Britain have shown that despite the lack of demand created by depressed commercial and industrial activity, both sales of vending machines and food and drinks from them, are rising at a steady level.

Sales of hot drink machines of the larger variety, mainly for industrial premises, have remained steady at around 7,000 machines a year, but the smaller dispenser type machines usually used in offices are selling in rising numbers at the rate of around 5,000 a year at present. This is widely accepted as a growing market and manufacturers believe that offices are nowhere near saturation point.

In terms of drinks served (a reasonable guide to the vending machine market as a whole) things are definitely looking up. The number of drinks bought through machines in 1975 was 2.9bn., of which 2.7bn. were hot and 171m. cold, is well up on the figure of 2.5bn. five years ago, but also well down on the unusually high 3.29bn. in the peak year of 1973. This was attributed largely to stockpiling at a time of rising prices.

However, in a more stable economic atmosphere last year it is estimated that around 3.1bn. drinks were sold and de-

mand this year will certainly be in excess of that. In the first six months the figure has reached 1.6bn. and will approach the 1973 peak.

It is clear that as the quality of machines and the demise of tea clubs has progressed, office demand for this type of equipment has increased substantially. In cost terms it is also clearly advantageous to use services of this kind.

Secretarial salaries have risen to the point where it is not sensible to waste their time in tea making activities, and conversely the highly trained secretary is often unwilling to cooperate in doing so.

This idea originated in the United States and is now being developed by Four Square

CONTINUED ON NEXT PAGE

### Survey

At the same time there is no reason to suggest that the quality of hot drinks should suffer as a result of introducing machines. A recent survey carried out by the Automatic Vending Association of Britain has shown that if machines are properly operated and maintained, there is little difference.

Offices have also become an increasingly attractive market for food dispensing machines and about 1,800 were sold during 1976. The key to this market is apparently the introduction of more enticing display systems which eliminate the inherent doubt about the quality of food sold in this way.

In terms of operation, the increase in demand for food has not caused any great difficulties because existing contracts for the servicing of drink machines can usually be extended to these machines as well. Major food groups have also been active in reaching supply agreements.

Although the nature of the industry is inherently stable, some new developments do have an impact from time to time. The newest of these is the so-

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# The environmental factor

SURROUNDING objects, region of circumstances is one concise definition of environment. Relative to a busy office, it takes little imagination to see how a modern environment could drive employees and customers away.

But growth brings its own problems, and these came to a head about a couple of years ago. At that time, its London operations were spread around. Its divisional headquarters were at Park Lane; the main London branch was at Walbrook in the City, and the International Financial Centre (foreign exchange) at Bucklersbury House, also in the City; there were also offshoots at Mayfair and in Bruton Street.

## Problem

Walbrook was the main problem, with a staff of about 450 — "some trying to find the edge of a desk to sit at" was one comment recently — and while attempts had been made to alleviate the problem by moving people around, it seems clear now that the imminent expiry of Bank of America's Walbrook lease was viewed as a blessing.

By 1975, the management had been thinking about a move, on and off, for something like 10 years. That September the decision was taken to move into its lack of embarrassment, what had been Gateway House, compared with some of its in Cannon Street in the City of London. And Bank of America got its chance to improve on its

own slice of the environment, for staff and customers alike. At this stage, the specialists say, too many companies dump the problem into the lap of a senior company executive who has never seen it like before — and may never again, given that the company is risking his health, his sanity or both. Others would rely on management consultants, or even more specialised office planning and design consultants to pull together the skills of experts in interior design, furniture, wiring and colour schemes.

The Bank of America started with some advantages. The building had been bought by the Imperial Group Pensions Fund in 1972 and the cost had risen from £27.7m. to over £32m. due to subsequent work; this had included major renovation and structural alterations which allowed for the provision of a substantial increase in the net floor space and for the installation of a sophisticated air conditioning system. The building was double-glazed throughout, and the office areas were fully carpeted.

A long list of the Bank's advisers at the time the new lease was signed included Sir Frederick Snow and Partners as structural engineers, Higgs and Hill as contractors to the building, design consultants Michael Inchbold and Fitzroy Robinson and Partners — the latter instructed by the Bank of America to supervise the further alterations and fitting out that the Bank would require. On top of that it had its own in-house team; here again, the Bank America group had a special advantage in its own Continental Service Company, based like the parent in California and set up with just this sort of responsibility in mind.

A project manager was flown over from CDC in October, 1975; the move was completed in July, 1976. The project

manager stayed on, based in Cannon Street, to supervise this aspect of the Bank's expansion in Europe, Africa and the Middle East; and the staff numbers have risen from 750 at the move's inception, through 800 at its completion, to around 850 at the moment.

Safety standards, and particularly security measures to protect staff, customers and money must have loomed large while the job was being done. In 1975, at least £2m. was the take from a robbery at the Bank's Mayfair branch, and by mid-1976, when the case went to trial, this was described as "one of the world's largest bank robberies, if not the largest in history."

## Facilities

Like other banks, on this aspect the Bank of America confines itself to saying that it "has security" at Cannon Street. One aspect it does reveal is that car parking facilities went to make room for the vaults, but this is one environmental disadvantage that most City workers have to put up with. Still on the safety angle, the bank has a nurse in the building to take care of cuts, bruises and worse — not just a matter of the odd finger stuck in a typewriter, since the bank has responsibility for the maintenance of the building, plant in the sub-basement and the crew that this requires.

Where space is concerned, those who remember reckon that the ex-Walbrook staff have 14.2 times the working area they had before. Some of them, incidentally, can look out over a raised garden which drew the odd wry comment at the official opening last year, the day before the Bank passed it over to the City Corporation. But last year, it was a matter of keeping plants alive; this year,

the garden (and the Bank) has received the Miller Trophy from the Worsbipital Company of Gardeners.

Looking after the inner person, there is a staff restaurant and sandwich bar nearby which the management reckons, at a pinch, could take two sittings at 400 people a time. The bank came down against the somewhat controversial idea of rest areas in the main building, reckoning that it was best for the majority to get away from their "work stations" for a break during the day. Meals are subsidised and the restaurant area hosts some recreational activities: The Bank America Club takes in darts and table

tennis there and it also arranges football, social functions, dances and discos. Back in the office, executives are not disposed to claim excellence in internal environmental planning for decisions which might just as well have been based on aesthetic considerations. The combination of natural and artificial lighting, with a colour scheme of tans, browns, pastel greens and wood finishes does seem to be easy on the eye; but so is the plant that decorates every office, and the plants were not put there to cut out glare. One practical wrinkle, however, is that certain wall colours denote the same function regardless of floor, so that

new arrivals may be less confused when finding their way around.

With office furniture, the Bank is gradually aiming for a standardised pattern with a work station—desk, chair, and so on—which is really its own creation. It decided on a particular shape of desk, solid with no legs, and got together with a manufacturer who is now producing it as a standard item. With noise, there is the double glazing to cut out the external problem. Internally, the noisiest areas—as one might expect—are the dealing rooms, and here the management has shelved out for acoustic tiling and wall insula-

Special carpeting, in the form of tiles, is reserved for the computer room and for strictly practical considerations: to be able to get at the wiring underneath. Noisy instruments, like tape cutting machines, are locked away out of the mainstream. So are the bulk of the filing cabinets, which probably reduces the clutter quite considerably.

With this, the variation between glass-fronted offices, open space centrally for secretaries and complete open plan, the overall impression is one of light, space and relative comfort.

William Cochrane

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## Vending

CONTINUED FROM PREVIOUS PAGE

Catering and Vending, a division of Mars, and by General Foods.

Considerable technology is involved in the system, both in the area of the cup filling process and the development of advanced new designs in vending machines. The system has gained quickly in popularity due to greater hygiene and simpler operating and maintenance procedures than with more traditional vending machines.

Since the advent in the United Kingdom of the in-cup system in the early 1970s, a quarter of all new machines sold now incorporate the system and by 1980 this figure is forecast to rise to 50 per cent. Now that the U.K. has achieved the foremost position in technological expertise for the new system, export potential is also substantial and Kils, the system marketed by Four Square, is penetrating new markets in the Far East and Europe.

The advantage of the system is that machines have fewer moving parts and have a high degree of versatility. For example, by means of a switch either hot or cold drinks can be served in a wide range.

Loading the machine is merely a question of putting cup stacks into their labelled slots in the carousel located inside the machine, but perhaps more important it allows the client to operate the system himself.

Another development in the vending of beverages, which accounts for around 66 per cent. of the market and is still the most profitable part of the business, is the provision of 50 called "fresh brew products" or to be more precise traditionally made coffee or tea.

These have become increasingly popular in the U.S. and are now having greater impact in Britain, although the widespread use of instant coffee in British homes has made it something of a traditional beverage. The real advance is in the making of tea, due to the fact that soluble essence has not yet approximated the real thing.

To make real tea, the machine has to extract the flavour from the leaves in a limited period of time, perhaps about 15 seconds, so a specially foie tea is required and accurate temperature control on the water. The advances made in electronically controlled systems have been timely in producing the precision required.

In many offices the use of automatic dispensing machines is clearly designed to supplement other catering services such as canteens which may be available, since attempts to provide any satisfactory hot meal

dispensers remain at an early stage, although the development of the micro-wave oven has been a major step forward.

Although the major saving associated with vending machines is the reduction in staff costs, any attempt to undertake large scale automation of catering services is not to be taken lightly. Although bigger systems such as self service canteens are available, these are normally only satisfactory for places where normal canteens are difficult to operate or for night workers, for example.

Another innovation is the provision of hot meals heated in cans and dispensed with easily removable lids, but again this has obvious disadvantages for most offices. It is clear therefore that although vending machines can and do offer an excellent service in a limited area, it will probably be some time before they can hope to compete with a well-run canteen.

Lorne Barling

## Too small to benefit from a Philips Office Computer?

(Not unless you're very small indeed)

Actually, there are very few businesses, regardless of size, that can't afford... and justify... an investment in a Philips Office Computer. Operating costs are going up for every business... large and small. But advancing technology is bringing relative computer costs down. The fact is, Philips can tailor an Office Computer system to fit your size... even if your staff is 15 or less!

We can help keep your cash flowing. Automate your invoicing and cash collection. Speed up your bookkeeping. Keep your inventory in balance. We can dig you and your staff out from under the paperwork mountain. We can help you really enjoy being small!

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Client Services, Thomson Yellow Pages Ltd, Thomson House, Farnborough, Hants GU14 7NU. Tel: Farnborough (0252) 41373. Sole sales agents for advertisements in Post Office telephone directories.

# The importance of good design

PHOTOGRAPHS OF offices which have won design awards are remarkable in one particular. Either the machines, which undoubtedly play an important part in the life of that office, have been removed before the shot was taken, or they are carefully arranged so that their power and telephone cables are hidden by the surrounding furniture, or the cable has been unplugged and tucked away out of sight under the machine itself. The same office would present a different picture during its normal working day, before it had been given the photographer's treatment. Cables would trail across desks, half of them obliterated by papers and files, they would entwine with each other beneath the typists' feet, stretch lethally from table to far distant plug and generally present a scene of much muddle and no little danger. In some corners of the office there would be people crouched over machines which were set too low, while in others there would be people craning to reach the back of machines which were too high.

The fact is that, although small machines, most of them electrically operated, have proliferated to an enormous extent in recent years, little real provision has been made for them by designers and manufacturers. Large machines are in a class of their own. They are normally free-standing, often very well designed and usually accommodated in special computer rooms, post rooms, print rooms or the like. The trouble begins when you get to the machines used in most offices: typewriters, adding machines, dictating machines, intercom systems, photocopiers, duplicators and even mini-computers, all electrically operated, many of them following the lead set by such firms as Olivetti and IBM, extremely handsome in appearance, all intended to be placed on a table top. And there they sit amid that spaghetti-like tangle of cables long-term guests who are very welcome but for whom there is as yet no real bed.

Architects and office space planners, admittedly, are doing their best in the organisation of new or rehabilitated offices to ameliorate this messy situation. In deep plan buildings (those most commonly used for open plan offices) a power and lighting grid is normally arranged in the floor with flush fitting outlets, and if these are in

## Provision

sufficient numbers to service any conceivable arrangement of work stations (or if spare capacity is provided, as is usual in the United States), at least there is no need for cables to snake across the floor in great loops or to be stretched taut for even greater distances. An alternative is to have the power and lighting supply set in the ceiling with free dropping cables. The latter arrangement can have a surrealistic appeal in certain offices, particularly if the cables are brightly coloured and the area served not too large. It certainly keeps the cable runs well clear of the floor. And shallow plan buildings will tend to rely on perimeter or core service outlets.

work surface thicknesses to enable typewriters and other machines to be placed at the appropriate height, and there is a 30mm leg adjustment making all the furniture extremely flexible in use—for the people who must work with it as well as the machines. And the designers have lost any intransigent cables and telephone wires in the most ingenious fashion, threading them away to terminal boxes and sockets within the framework of the furniture and thence on via a single cable to floor plugs which will—if the office is carefully planned—be in close proximity. Any cables which need to cross a desk or table top follow a cable channel, which is concealed by a cover incorporating pencil and ash trays. An added refinement to this well thought-out system is "floats" the instrument above the work surface, thus clearing more space for work, with the wire, of course, threading neatly away into the framework, and a slim-stemmed desk lamp which works in the same way. Voko has truly registered the advent of the office machine age.

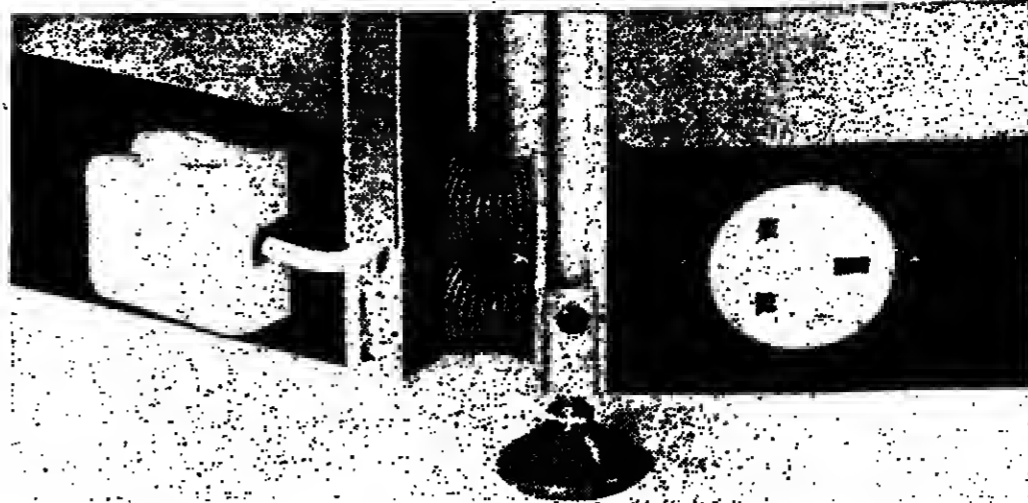
Happily one British firm has now had the wit to emulate it, if a little late. Carson, whose office furniture has always had a reputation for good design and quality at reasonable prices, is launching a new range, the 1100, and will have prototypes on show at the I.B.S. This will incorporate all the cable-concealing features pioneered by Voko, but will have several advantages over its German competitor. For instance, the range is to be in wood, which many office planners and users prefer to steel, and in addition the company introduced integral trunking into the screens which form part of one of its existing ranges the Link 900. Voko does not sell ordinary acoustic and visual screens—Carson does, and now these—which will of course be available with the new 1100 range—have been most meticulously redesigned to incorporate a double channel mounted at the bottom of each screen. Easily accessible via a special drop-down access flap, this will allow both electrical power and telephone cables to be run along one or a succession of screens, taking power away from the work station to a floor plug. This gives immediate flexibility to those planning an office, even when the underfloor grid is not as lavish in outlets as it might be, for cables can be taken some

distance in the most discreet and tidy manner, via the screening system.

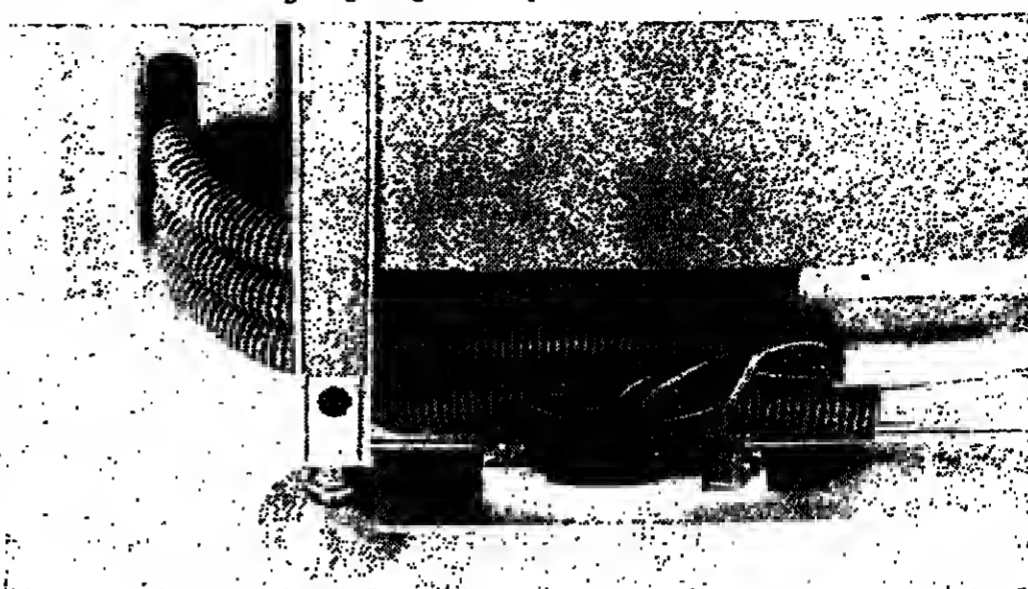
One other English manufacturer deserves a mention. Hill put its Office System on to the market nearly ten years ago, long before either of the other two products was thought of. It is a splendid range of free-standing desks, carrels, screens—virtually anything which could be required in any type of office—and, although it was designed before machines assumed the importance they now enjoy, the carrels do incorporate ducts to conceal electrical and telephone cables, and even the work tables and desk have a grommet and plug fitting to hold cables in place, which is a great deal more than can be said of other ranges emanating from that period.

The need which Hill recognised so early has at last impinged upon less percipient manufacturers, who I predict will shortly be heaving themselves on to this particular band wagon. They will have to unless they are to lose business to more alert competitors.

Jose Manser



The Carson Link 900 integral screen trunking. The top photograph shows how cables or wires run inside the channel, while, below, the snap-on cover is removed, giving easy access for maintenance.



If the lessor's lease for a five-year term, it means the lessee's depreciation term and depreciation accordingly. Rigidly speaking it is therefore impossible to get out of a contract once signed without comparatively high expense, since the lessor's finance will be upset. It is extremely important to check that the machinery which is being leased is what the lessee wants and not what the lessor wants him to have. In the year or two, leasing companies have worked out more flexible schemes to allow changing needs, such as equipment which can be replaced or made obsolete.

To the well-established smooth-working companies there will probably be no problem in getting a lease in routine way. For accounting purposes, leasing is a straight expense, the rentals being going over as "costs" each month. To some extent, many cases a significant credit means that the capital expenses of a company are affected by its leased equipment, and the normal loss credit in the bank are affected. Leasing is in a sense a useful line of credit even the best-run companies.

## Newcomer

In the newcomer in the business, the way may be so easy. Leasing companies like to see a track record of at least two years before risk contract signature. They want to be sure that a company is not "over-leasing"—that its leasing commitments are not bleeding it dry. On the dangers of leasing is while the front-end commitments are almost non-existent an accumulation of leases he a very expensive business. There is sometimes a tendency to regard leasing as a safe avenue of last resort; lessor's pre-occupation is make sure that he is not as such, since he absorbs the much as any banker.

The principles of office equipment leasing apply to any of leased equipment, right a complete oil refinery, possibly with increasingly complex variations and prices with more expensive equipment, and for equipment with high second-hand value (the less risk is increased if he is sure he can easily sell equipment to a third party the first lease breaks down).

The advent of increasingly sophisticated office equipment such as desk-top computers, sophisticated electronic accounting machines, has been a news to the leasing companies. The more expensive equipment, the better deal they offer since their overheads are easier to absorb. And they know the more expensive equipment, the more likely user is to become a lessee.

Robert Hawk  
Editor, Leasing

# Leasing takes hold

PROBABLY BETWEEN a fifth and a quarter of all the office equipment sold in the U.K. is sold through lease finance schemes. The most popular leased item is the copier, of which 80 per cent are leased finance, but the facility extends from typewriters and franking machines to in-house printing equipment and mini-computers. Leasing is consequently recognised as one of the most important aids to sales presently available.

Equipment manufacturers pursue two chief methods of securing lines of lease finance. They either contract with established leasing companies to provide the facility—companies such as Bowmakers, Anglo Leasing, Hamilton Leasing, Schroder Leasing, IBOS and the like—or they set up

their own leasing subsidiaries funded by their own profits and the conventional money markets. These companies are frequently managed by established leasing companies who have the know-how and the extensive computer record systems essential to the job—leasing so-called "small ticket" items such as office equipment involves high overhead costs.

## Eligible

Office equipment is eligible for first-year investment allowances made by the Government to encourage investment in new equipment. This means that the equipment earns deferral of tax for the period of one year, based on first-year depreciation. This can be 100 per cent financing, since no deposit has to be made by a customer (or lessee) although

he will generally have to pay a rental or more in advance, depending on the equipment and leasing company involved. The important elements in signing a lease contract are these: The equipment always remains the property of the leasing company, and at the expiry of the contract term—generally three to five years—the equipment remains the property of the leasing company. The lessee may take out a second lease if he wishes when the rentals are reduced to a fraction of the first-term amounts.

If the leasing company sells the equipment it must go to a third, unconnected party, or the first-year allowances would be nullified and the lessor would be out of pocket.

tion is clearly not going to make or break a business company, for instance, but for the large leasing companies, who are for investment purposes treated equally with industry and business, allowances are important elements in their calculations.

The advantages of free depreciation can be worked into a lease and passed on to the customer and Special Development Area grants can also be used; nevertheless, the voluminous paperwork and high overheads involved in administering so many thousands of small-ticket items, means that leasing can be expensive. One of the biggest benefits, however, is that leasing is virtually 100 per cent financing, since no deposit has to be made by a customer (or lessee) although

## Nullified

he will generally have to pay a rental or more in advance, depending on the equipment and leasing company involved.

# WE'D BE THE FIRST TO AGREE THAT CARBON HAS LEFT ITS MARK ON BUSINESS EFFICIENCY



Carbon was introduced over a century ago, to provide a quicker method of making copies. So, to be fair, it merits a Long Service Award. But in today's office environment, it is frankly out of date.

In the name of progress, it's worth looking at some of the comparative advantages of Idem carbonless copying paper. Each sheet of Idem carbonless looks and feels like any ordinary office paper—but when it comes to making copies with Idem, there's no separate sheet of carbon to interleave, line up and separate afterwards.

With Idem carbonless copies, all that's required is to write, type or print on the top sheet in the normal way.

And because each sheet of Idem has been specially processed, whatever is written, typed or printed is automatically transferred immediately into the sheets beneath.

The resulting copies—for sales, invoicing, accounting, delivery, stock control, correspondence—are clean, clear and reliable.

At the same time, the production of those copies is quicker, easier and more convenient.

And therefore more cost efficient.

But there's more to Idem carbonless than is evident from the telling in brief.

Ask your printer for the full story. Or complete and post the coupon for your free sample demonstration pack.



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Please send me—free and without obligation—my sample demonstration pack.

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Address \_\_\_\_\_

Idem is made by Wiggins Teape, Papermakers to the World.  
All the advantages of carbon, without the disadvantages.

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LABOUR NEWS

Fleet Street pay claim talks to-day

BY OUR LABOUR CORRESPONDENT
FLEET STREET. Manchester... Glasgow journalists... pay claim... talks to-day...

Toolmakers 'worst hit' by pay differentials

By Alan Pike, Labour Correspondent
SOME OF the biggest losses of pay differentials among skilled engineering workers...

John Cuckney new chairman of PLA

Mr. John Cuckney has become chairman of the PORT OF LONDON AUTHORITY... following appointments to the Board of its subsidiary...

Businessman's Diary

Table listing U.K. Trade Fairs and Exhibitions with dates, titles, and venues.

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Table listing Overseas Trade Fairs and Exhibitions with dates, titles, and venues.

BUSINESS AND MANAGEMENT CONFERENCES

Table listing Business and Management Conferences with dates, titles, and venues.

Closed-shop ban could be harmful, say Tories

OUR LABOUR CORRESPONDENT
CONSERVATIVE Party... closed-shop ban... harmful... Tories...

Benefits

The overall differential of the skilled over the semi-skilled was reduced to £1 a week...

BARING BROTHERS AND COMPANY

Mr. Peter Gray has been appointed managing director of Baring Brothers and Company...

COMPANY NOTICES

Multiple company notices including NIPPON MEAL, AMERICAN FIRE INSURANCE, and various legal notices.

Teachers to meet Mrs. Williams

Teachers will be holding public meetings to meet Mrs. Shirley Williams...

WEEK'S FINANCIAL DIARY

Table listing financial diary events including company meetings, board meetings, and interest payments.

THURSDAY, OCTOBER 6

Table listing financial diary events for Thursday, October 6, including company meetings and interest payments.

Advertisement for SELE-PEL SEASONAL PRESELECTION OF LEATHERGOODS, featuring a circular logo and promotional text.

Advertisement for International Tourist Exchange, providing contact information and services.

Advertisement for CLUBS, listing various clubs and their details.

Advertisement for PUBLIC NOTICES, including notices from the Lloyds Bank and other institutions.

OVERSEAS MARKETS

EUROBONDS

Furore over Citicorp pricing

THE FAVOURABLE U.S. money supply figures which came out in Europe on Friday morning followed a generally quiet week to the U.S. dollar secondary market. Prices were mostly down again, where changed, but activity was not great.

The following points have been put forward by various sources in defence of the pricing: (1) Market conditions changed for the worse during the offering period. (2) Given the fault in the market mechanism (the absence of three-year and four-year top quality U.S. bank paper for the smaller investor) the pricing is not as wrong as it would suggest.

On the second point it is argued that the small investor would have done notably better to have waited to buy the bonds in the secondary market while the large-scale investor (who might not have been able to buy in the aftermarket in sufficient quantity) would have done better to have invested in certificates of deposit or bank deposits.

BY MARY CAMPBELL

CURRENT EUROBOND ISSUES

Table with columns: Borrowers, Amount, Maturity, Av. life, Coupon, Price, Lead manager, Offer yield. Includes entries for U.S. Dollars, D-MARKS, and Canadian Dollars.

BONDTREDE INDEX

Table with columns: Sept 30, Sept 23, High, Low. Rows for Medium term, Long term, Convertible.

EUROBOND TURNOVER

Table with columns: U.S. Bonds, Other Bonds, Last week, Previous week. Rows for Codel, Euroclear.

Indices

NEW YORK - DOW JONES table with columns for Sept 30, Sept 23, High, Low, and various index values.

Table for NYSE ALL COMMON, MONTEAL, and TORONTO with columns for Sept 30, Sept 23, High, Low.

GERMANY table with columns for Sept 30, Sept 23, High, Low.

JOHANNESBURG table with columns for Sept 30, Sept 23, High, Low.

AUSTRALIA table with columns for Sept 30, Sept 23, High, Low.

PARIS table with columns for Sept 30, Sept 23, High, Low.

STANDARD AND POORS

Table with columns for Sept 30, Sept 23, High, Low.

Investment premium based on 42.60 per cent - 82.1% (82.1%)

Table with columns for Sept 30, Sept 23, High, Low.

AMSTERDAM

Table with columns for Sept 30, Sept 23, High, Low.

COPENHAGEN

Table with columns for Sept 30, Sept 23, High, Low.

BRUSSELS/LUXEMBOURG

Table with columns for Sept 30, Sept 23, High, Low.

STOCKHOLM

Table with columns for Sept 30, Sept 23, High, Low.

OVERSEAS SHARE INFORMATION

NEW YORK table listing various companies and their share prices.

CANADA

Table listing various Canadian companies and their share prices.

TOKYO

Table listing various Japanese companies and their share prices.

OSLO

Table listing various Norwegian companies and their share prices.

SWITZERLAND

Table listing various Swiss companies and their share prices.

TEL AVIV

Table listing various Israeli companies and their share prices.

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# JAPAN WANTS YOUR PARTS

*-it could be your largest market!*

The opportunity:- 40 million Calculators; 4 million Sewing Machines; 2½ million Air Conditioners; ½ million Copying Machines; ¼ million Vending Machines; 3½ million Telephones; 41 million Tape Recorders; 15 million Televisions; 4 million Stereos; 4½ million Fans; 4 million Washing Machines; 4 million Refrigerators; 4½ million Vacuum Cleaners; 1½ million Electric Cookers; 200 million Fluorescent Lamps; 13½ million Cameras.

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**NCC's** Import activities include Electronic materials as well as finished components. Sales in Japan are channelled through its distribution networks, which already cover the whole Electronic Industry.

**NCC's** unique pioneering approach has made it Japan's leading Exporter of Aluminium Electrolytic Capacitors into Europe and the U.S.A. **NCC CAN HELP YOU, PLEASE CONTACT . . .**

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AUTHORISED UNIT TRUSTS

OFFSHORE AND OVERSEAS FUNDS

Table listing various unit trusts and offshore/overseas funds, including names like Abbey Unit Tr. Mgrs. Ltd., British Overseas Airways, and various international investment funds.

I.G. Index Limited 01-31 3466. Gold 1531-1567

1. Tax free trading on commodity futures
2. The commodity futures market for the smaller investor

FINANCIAL TIMES STOCK INDICES

Table showing stock indices for various sectors: Government Secs, Fixed Interest, Industrial Ordinary, etc.

HIGHS AND LOWS S.E. ACTIVITY

Table showing high and low stock prices and S.E. activity for various companies.

FT-ACTUARIES INDICES

Table showing FT-Actuaries indices for Industrial Group, J.O. Shares, and P/E Ratio.

HONG KONG

Table showing stock prices and activity for various companies in Hong Kong.

SINGAPORE

Table showing stock prices and activity for various companies in Singapore.

INSURANCE, PROPERTY, BONDS

Large table listing insurance, property, and bond products from various providers like Abbey Life Assurance, British Overseas Airways, etc.

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Henry Boot Construction Limited Sheffield Tel: 0246-410111

FT SHARE INFORMATION SERVICE

AMERICANS - Continued

Table with columns: Dividend, Stock, Price, Div. Yield, etc. for American companies.

BUILDING INDUSTRY - Cont.

Table with columns: Dividend, Stock, Price, Div. Yield, etc. for building industry companies.

DRAPERY AND STORES - Cont.

Table with columns: Dividend, Stock, Price, Div. Yield, etc. for drapery and stores companies.

ENGINEERING - Continued

Table with columns: Dividend, Stock, Price, Div. Yield, etc. for engineering companies.

BRITISH FUNDS

Table listing various British funds with their respective prices and yields.

Shorts (Lives up to Five Years)

Table listing short-term investments with their prices and yields.

Five to Fifteen Years

Table listing investments with a five to fifteen year maturity.

Over Fifteen Years

Table listing long-term investments with a maturity of over fifteen years.

Undated

Table listing undated investments.

INTERNATIONAL BANK

Table listing international bank shares.

CORPORATION LOANS

Table listing various corporation loans.

COMMONWEALTH & AFRICAN LOANS

Table listing commonwealth and African loans.

LOANS (Miscel)

Table listing miscellaneous loans.

BEERS, WINES AND SPIRITS

Table listing shares in beer, wine, and spirit companies.

FOREIGN BONDS & RAILS

Table listing foreign bonds and rail shares.

CANADIANS

Table listing Canadian companies.

BANKS AND HIRE PURCHASE

Table listing banks and hire purchase companies.

Hire Purchase, etc.

Table listing hire purchase and related services.

BEERS, WINES AND SPIRITS

Table listing shares in beer, wine, and spirit companies.

FOREIGN BONDS & RAILS

Table listing foreign bonds and rail shares.

AMERICANS

Table listing American companies.

BUILDING INDUSTRY, TIMBER AND ROADS

Table listing building industry, timber, and roads companies.

DRAPERY AND STORES

Table listing drapery and stores companies.

CHEMICALS, PLASTICS

Table listing chemicals and plastics companies.

CINEMAS, THEATRES AND TV

Table listing cinema, theatre, and TV companies.

DRAPERY AND STORES

Table listing drapery and stores companies.

BUILDING INDUSTRY, TIMBER AND ROADS

Table listing building industry, timber, and roads companies.

DRAPERY AND STORES

Table listing drapery and stores companies.

BUILDING INDUSTRY, TIMBER AND ROADS

Table listing building industry, timber, and roads companies.

DRAPERY AND STORES

Table listing drapery and stores companies.

ELECTRICAL AND RADIO

Table listing electrical and radio companies.

ENGINEERING

Table listing engineering companies.

ENGINEERING MACHINE TOOLS

Table listing engineering machine tools companies.

ENGINEERING

Table listing engineering companies.

ENGINEERING MACHINE TOOLS

Table listing engineering machine tools companies.

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Table listing engineering companies.

ENGINEERING MACHINE TOOLS

Table listing engineering machine tools companies.

INDUSTRIALS (Miscel)

Table listing miscellaneous industrial companies.

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Table listing miscellaneous industrial companies.

INDUSTRIALS (Miscel)

Table listing miscellaneous industrial companies.

HOTELS - Continued

Table listing hotel shares.

INDUSTRIALS (Miscel)

Table listing miscellaneous industrial companies.

INDUSTRIALS (Miscel)

Table listing miscellaneous industrial companies.

INDUSTRIALS (Miscel)

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Table listing miscellaneous industrial companies.

INDUSTRIALS (Miscel)

Table listing miscellaneous industrial companies.

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Table of Industrial stocks including companies like Anglo-Siam Corp, Anglo-Siam Petroleum, Anglo-Siam Rubber, etc.

Table of Insurance stocks including companies like Anglo-Siam Insurance, Anglo-Siam Fire, etc.

Table of Property stocks including companies like Anglo-Siam Property, Anglo-Siam Real Estate, etc.

Table of Trusts stocks including companies like Anglo-Siam Trust, Anglo-Siam Investment, etc.

Table of Trusts stocks (continued) including companies like Anglo-Siam Trust, Anglo-Siam Investment, etc.

Serving the world with financial expertise. SANWA BANK Tokyo, Japan

Table of Mines stocks including companies like Anglo-Siam Mines, Anglo-Siam Minerals, etc.

Table of Overseas Traders stocks including companies like Anglo-Siam Overseas, Anglo-Siam International, etc.

Table of Copper stocks including companies like Anglo-Siam Copper, Anglo-Siam Metals, etc.

Table of Miscellaneous stocks including companies like Anglo-Siam Misc, Anglo-Siam Divers, etc.

Table of Teas stocks including companies like Anglo-Siam Tea, Anglo-Siam Beverages, etc.

Table of Mines stocks (continued) including companies like Anglo-Siam Mines, Anglo-Siam Minerals, etc.

Table of Far West Rand stocks including companies like Anglo-Siam Rand, Anglo-Siam West, etc.

Table of O.F.S. stocks including companies like Anglo-Siam O.F.S., Anglo-Siam Overseas, etc.

Table of Finance stocks including companies like Anglo-Siam Finance, Anglo-Siam Investment, etc.

Table of Options 3-month Call rates including various financial instruments and rates.

Table of Diamond and Platinum stocks including companies like Anglo-Siam Diamonds, Anglo-Siam Precious, etc.

Table of Motors, Aircraft Trades, Commercial Vehicles, Components, Garages and Distributors.

Table of Shipbuilders, Repairs, Shipping, Shoes and Leather, South Africans, Newspapers, Publishers, Paper Printing Advertising.

Table of Textiles, Property, Tobacco, Trusts, Finance, Land, Investment Trusts.

Table of India and Bangladesh, Sri Lanka, Africa, Central Rand, Eastern Rand, Far West Rand, O.F.S., Finance, Land, etc.

Table of India and Bangladesh, Sri Lanka, Africa, Central Rand, Eastern Rand, Far West Rand, O.F.S., Finance, Land, etc.

Table of Regional Markets including various regional stock indices and market data.

Table of Options 3-month Call rates including various financial instruments and rates.

Table of Diamond and Platinum stocks including companies like Anglo-Siam Diamonds, Anglo-Siam Precious, etc.

Table of Insurance stocks including companies like Anglo-Siam Insurance, Anglo-Siam Fire, etc.

Table of Property stocks including companies like Anglo-Siam Property, Anglo-Siam Real Estate, etc.

Table of Trusts stocks including companies like Anglo-Siam Trust, Anglo-Siam Investment, etc.

Table of Trusts stocks (continued) including companies like Anglo-Siam Trust, Anglo-Siam Investment, etc.

Table of Trusts stocks (continued) including companies like Anglo-Siam Trust, Anglo-Siam Investment, etc.

Table of Finance stocks including companies like Anglo-Siam Finance, Anglo-Siam Investment, etc.

MYSON Britain's leaders in Heating Ventilating and Air Conditioning equipment

FT Monthly Survey of Business Opinion Industry expects 12-13% rise in wage costs

FINANCIAL TIMES REPORTER INDUSTRY DOES NOT expect a wages explosion in the coming 12 months. But it believes pay settlements will average out at a level somewhat higher than the Government's target of a national earnings increase of 10 per cent.

CAPITAL INVESTMENT 4 monthly moving total September 1977

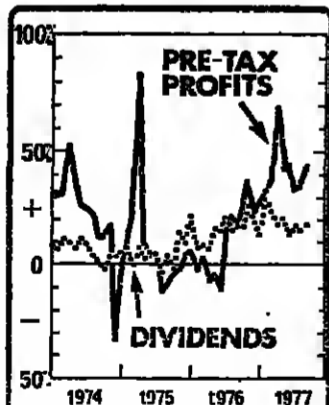
CBI optimistic about Government prices target

AN OPTIMISTIC forecast of the likely trend in price rises for the rest of this year is issued this morning by the Confederation of British Industry, which says that the Government's target of a 13 per cent annual rate for increases might be met or even improved upon by December.

The CBI is also cautiously optimistic about the trend of pay negotiations in recent weeks, although its overall view of the country's economic situation is tempered by gloomy prospects for overseas trade.

Industrial company profits up 44.3%

PRE-TAX profits of the 141 industrial companies which issued full reports and accounts during September were 44.3 per cent up on the comparable year-ago figures.



Another rise in reserves

A further substantial rise in the U.K.'s overseas reserves will be announced tomorrow, it is expected, following the continuing strength of the pound over the past month.

Profit-sharing companies may gain tax relief

TAX ADVANTAGES for companies introducing profit-sharing schemes covering all their employees will be expected, he suggested in a consultative document to be published later this year by the Treasury.

Even without any new legislation, a growing number of companies, including clearing banks and large retailing concerns, have recently been preparing proposals for schemes for their employees both as a way of rewarding productivity and increasing worker-involvement in his company.

What is far from clear is how specific the Government intends to be about the sort of profit-sharing it favours. The term embraces a wide range of options from a straight cash handout to the allocation of shares which have to be held by an employee for a number of years before they can be cashed.

Efficiency survey at Stock Exchange

THE STOCK EXCHANGE is planning to establish a 'think tank' of senior brokers and jobbers to consider whether any changes are needed in the way in which the stock market conducts its business.

U.S. may put temporary curb on Japan steel

TEMPORARY QUOTAS to curb imports of steel from Europe and Japan are being considered by the U.S. Administration as a way of curbing down the protectionist fires to Congress.

Healey's intention

The Chancellor's blunt declaration that the scope for reflation will continue to depend on the modesty of wage settlements will not go down well with union leaders.

THE LEX COLUMN The stock market and sterling

No doubt the Government will be happy to bask in the glory of another huge rise in the 'official' foreign exchange reserves when the September figures are announced tomorrow, conveniently timed for the Labour Party Conference.



Earlier in the year it could have been confidently stated that the freeing of the exchange rate would have been a strongly positive factor for both gilts and equities, partly because of the implications for future inflation and partly because of the general impact on confidence.

But despite these reservations, the U.K. may decide it politically expedient not to mount any opposition to the Government's ideas, even though its own policy for some time has been that any profit-sharing should be based on collective rather than individual ownership in schemes at least partly controlled by the union.

Retail profits This time a year ago, the retail sector was shrouded in gloom. Consumer spending was under severe pressure, inflation was accelerating and sales volumes were sinking lower and lower.

IMMEDIATELY AVAILABLE AND SO CLOSE TO THE CENTRE OF LONDON. RENTS FROM £1.10. MILLWALL E.14. SILVERTOWN E.16. WEST THURROCK.

Weather U.K. TO-DAY Sunny spells, some rain. London, Cen. S., Cen. N. England, E. Midlands. Wind: variable to S.W. Normal. Max. 16C (61F).

Continued from Page 1 Smith the Anglo-American package as a basis for further negotiation. Dr. Owen to his interview said he felt that Mr. Smith had got very close to 'accepting that universal suffrage is necessary to end the violence.'

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